

letter from Paris

All in One Act

by HENRY POPKIN

The theatrical flowers that another colleague comes on board in the Parisian summer are never so colourful as those in display during the rest of the year. In the summer, most of the theatres of Paris close; what remains constitutes an imperfect cross-section of the season's offerings — imperfect because the heights and depths of the season just past are not fully represented. Most of the summer's "experimental" and reflected experiments' best results are fully known and belong to history. Even so, the serious productions of the last season extraordinary and promised to set new fashions and chart new courses for the theatre did last well into the hot weather.

Ariane Mnouchkine's documentary historical super-spectacle 1789 closed, appropriately enough with a free performance on the eve of Bastille Day. Robert Wilson's two silent spectacles, *Prologue* and *Death of Cleopatra*, kept going until the summer festival circuit beckoned to them. If the current generated by these productions is any guide, the new imitations of the Paris theatre will test the limits of the conventional playhouse; they threaten the literary aids of the drama as all. Mine. Mnouchkine's words long to history, not to literature, while Wilson uses no words at all.

But the summer's oriental grottoes thoroughly insulated from anything so new and shocking. It is a courtly paradise of the Establishment (a contradiction in terms in my country but France), the courtly paradise of the last previous cultural revolution. In the salons, programmes of one-act plays faithfully bear witness for the absurdist, and yet absurdly, did all this débris of absurdism, 19th-century enter- tainment by Eugène Labiche shines sent up in a different way.

Further on in this marathon programme, Audiberti's anti-war play, *Les Patients*, is commendable in principle but tiresome in practice. In Rousset's *Le Tombouc d'Achille*, a farce that has, its author informs us, been acted more than 1,000 times in 25 years, an aged couple get a few laughs by chewing over some changes in their burial plot. To this play, which antedates absurdist theatre, the printed programme attaches a quotation from Ionesco on the necessity of laughing at life.

No such principle end no absurdist text are needed to induce our laughter at the last and best of the evening's plays, Labiche's *Mon Ismène*, in which a doting father resists the threatened marriage of his beloved daughter, an innocent child of 29 (marked up from the original text's 24 to suit the 24-carat gold article that

the young man as his own illegitimate son, but all to no avail; grumbling all the way, the father accepts defeat. Labiche at his best, as he is here, is timeless, in part, perhaps, because he stayed out of anyone's mouth and the *Mariage de Figaro* of the Financial Times.

Mysteriously, the entire Left bank has become a one-act play festival. The Lucentine presents Laurent Terzieff and three colleagues playing approximately a dozen roles in Claude Mauriac's *Le Maintien*, while yet another.

Albert Hall

Early musics

by RONALD CRICHTON

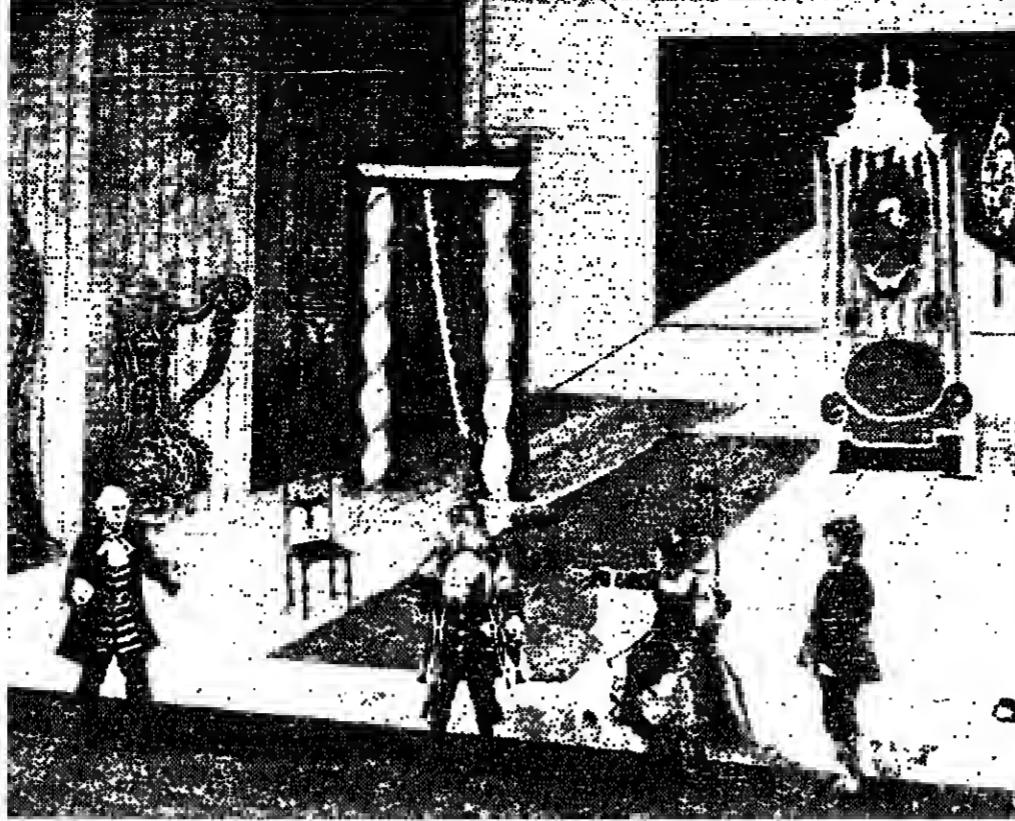
A bumper from on Friday with music ranging from Josquin to Bach, sung and played by four ensembles, two of them among our most expert specialist groups. The Albert Hall was filled with people eager to drink it all in. They stood and sat patiently, but the sum total disappointed after an encouraging beginning.

David Munrow's Early Music Consort left off with a sequence of vocal and instrumental pieces, "Music at the Court of Spain," "Music at the Court of Spain," "Applause" between the short numbers was discouraged. No doubt this was less distracting for performers, but the sudden jump from sacred to profane (solemn hymn followed by lusty drinking song) became a bit unnerving unless you chose to let the whole thing run past like a kind of culture-vulture's *Musak*.

No mistaking the quality of the artists, James Bowman and Martin Hill, in the vocal numbers excelling both separately and together. Mr. Munrow's assortment of instruments animated and illuminated by his infectious rhythm. It was the same in the group of dance arrangements from the Terpsichore of Praetorius, and here the continuity was entirely in place. From then on, as the music grew bigger, performances became less satisfying.

Twice at least this summer London has heard works by Josquin des Prés (he died just 450 years ago) more likely to convert non-specialists than the three motets given on Friday by Michael Howard and the Cantores in Ecclesia, whose deep feeling and passionate tone do not make their full effect in this hall. A Monteverdi group was stiffly done, with too little attention to words and meaning, by Martindale Sidwell with his own choir and what were presumably players from the London Bach Orchestra, due to round off the programme with the fourth Brandenburg.

Browsing earlier in the week in The Music Lover's Companion edited by Gervase Hughes and Herbert Van Thal, Eyre and Spottiswoode, £3), and thinking ahead to this concert, it was impossible not to reflect how much tastes have changed in the last few years, how different the contents might be of a similar anthology published in, say, 20 years from now. For in this



Act 2

Salzburg Festival—3

Don Pasquale

Donizetti's comic masterpiece can seldom have received more sympathetic, more loving, or more understanding than here has been lavished on it at Salzburg this year. Though usually a popular success even in an indifferent performance, *Don Pasquale* repays that extra care with generous dividends. The new production at this major Festspielhaus, despite a major miscalculation in casting, gives enormous pleasure, and should continue to do so for many seasons.

Ladislav Stros both produced and designed the sets. He comes from Prague, a city where for several centuries the artists and craftsmen have absorbed the culture and traditions of Italy. This

is not the vague yearning for the South felt by most northern Europeans, and best expressed by Goethe in "Kenzt du das Land?" but a genuine cross-fertilisation of ideas. The day before the first performance Mr. Stros gave a short introductory lecture. He talked more about himself than about *Don Pasquale*, but only in order to present his credentials. The talents bring to his double task are impressive indeed, and the results quite spectacular.

Clocks and hearts are the motifs of his production. Clocks are for *Don Pasquale*, a bachelor with too much money and too little to do, who collects antiques.

There are several interesting time-pieces in his house to remind him of the seconds slipping by. Hearts are for Norina, who has a large red one on the bodice of her dress, symbolising the 24-carat gold article that

beats underneath. Hearts are also for Ernesto, the arch-example of the lovesick tenor, who wears his figuratively speaking, on his sleeve. Dr. Malatesta stands apart from the other characters. It is he who ensures that neither clocks nor hearts run down.

Mr. Stros uses colour as a means of expression. Against the severe black and white background of his collection, a riot of red, yellow and purple flamboyantly asserts *Don Pasquale's* bourgeois taste. In his garden the trees grow both oranges and lemons together, and the foliage is a vivid emerald green. In contrast the costumes (by Marcel Pekny) are relatively sober, the men dress mainly in black, Norina favours pale mauve, and only as Sofronia does she wear bright, licorice allsorts colours.

Fernando Corena must have sung *Don Pasquale* more times than can be remembered, but I doubt if he has ever given a finer performance than this one.

He was immensely funny, but without exaggeration, and therefore all the more touching and generous in defeat. His voice

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I am in a quandary. She looked

at me with a smile.

The conductor was Riccardo Muti. Having previously heard him only in Verdi (*I Masnadieri* in Florence), I was prepared for the men dress mainly in black, Norina favours pale mauve, and only as Sofronia does she wear bright, licorice allsorts colours.

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Businessman's Diary

U.K. TRADE FAIRS AND EXHIBITIONS

Current	Title	Venue
To-day	Midlands Gift Fair (cl. Aug. 26)	City Hall, Solihull
August 27-Sept. 11	World Sportscaul (cl. Sept. 4)	Earls Court
August 31-Sept. 3	Intl. Handicrafts and Do-It-Yourself Exhibition	Olympia
Sept. 2-24	Intl. Audio-Visuals Aids Conference & Exhibition	Olympia
Sept. 5-6	Brassfoundry Exhibition	Building Centre, W.C.1
Sept. 7-10	West of England Gift Fair	Victoria Rooms, Bristol
Sept. 7-10	Northern Floor Coverings Fair	Exhibition Hall, Harrogate
Sept. 8-10	Italian Exbn. of Convenience Foods	25, Old Burlington St. W.
Sept. 8-10	Electromotion Exhibition	Royal Victoria Htl, Sheffield
Sept. 9-16	Northern Antique Dealers' Fair	Royal Baths, Harrogate
Sept. 9-18	Internationals Laundry & Dry Cleaning Exbn.	Olympia
Sept. 13-16	Industrial Development Exhibition	Birmingham University
Sept. 13-17	Financing for Intl. Trade and Export Services	Olympia
Sept. 13-17	International Watch and Jewellery Trade Fair	Earls Court
Sept. 13-17	Electro-Mechanical Components Exhibition	U.S. Trade Center, W.
Sept. 14-18	Surrey Ideal Home Exhibition	Civic Hall, Guildford
Sept. 15-19	Autumn Antiques Fair	Chelsea Town Hall
Sept. 17-19	Northern Internationals Hi-Fidelity Festival	Majestic Hotel, Harrogate
Sept. 18-25	Brighton International Trade Fair	Hotel Metropole, Brighton

OVERSEAS TRADE FAIRS AND EXHIBITIONS

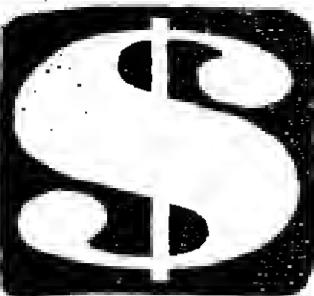
Current	Title
To-day	International Trade Fair (cl. Sept. 4)
August 26-Sept. 11	Exhibition on Information Processing (cl. Aug. 28)
August 27-Sept. 5	International Trade Fair
August 27-Sept. 1	Radio, Television and Record Exhibition
August 27-Sept. 1	International Autumn Fair
Sept. 2-6	International Motor Show
Sept. 2-11	International Fair
Sept. 4-11	Irish International Food and Drink Fair
Sept. 5-12	International Household Goods & Hardware Fair
Sept. 5-12	International Autumn Trade Fair
Sept. 5-13	Gifts and Objets d'Art Exhibition
Sept. 5-13	Jewellery Gold and Silverware Exhibition
Sept. 5-13	Building Material and Prod. Equip. Exbn.
Sept. 5-13	International Autumn Fair
Sept. 10-13	Fashion Trade Fair
Sept. 10-15	International Leather Exhibition
Sept. 11-20	International Trade Fair
Sept. 11-26	Commercial Fair
Sept. 12-15	Scandinavian Fashion Week
Sept. 12-19	Italian Furniture Fair
Sept. 13-18	International Brewery Machinery Exhibition
Sept. 14-18	Municipal Equipment Exhibition
Sept. 14-18	International Technical Fair
Sept. 15-17	Canadian Computer Show
Sept. 17-20	Food Industry Trade Fair

BUSINESS AND MANAGEMENT CONFERENCES

Current	Title
August 25	Guardian Business: Instructor Trng. (cl. Aug. 27)
August 30-Sept. 10	Bank Education Services Conference
Sept. 1-2	PE Consulting Group: Modern Financial Mngt.
Sept. 1-24	Incumbent: Field Selling Operations
Sept. 2	HMP School Mgmt. Services: Work Study
Sept. 5-10	Training for Bus.: Computer Originated Microfilm
Sept. 6-7	Pest Marwick Mitchell: Production Mngt.
Sept. 6-8	IPM: Staff Appraisal and Mkt. Development
Sept. 9-10	Mgt. Training Consultants: Supervisors in Action
Sept. 13-15	Ind. Assess. and Research: Differential Test Battery
Sept. 13-16	Cooper Bros.: Accountancy for Managers
Sept. 15	Ind. Soc.: Involving Young Employees
Sept. 15-16	Mktg. Improvements: The Marketing Function
Sept. 16	Financial Times: Britain as a Business Partner
Sept. 20-21	Assoc. Bus. Progs.: Total Loss Control
Sept. 20-24	BACIE: Techniques of Instruction (Part 1)
Sept. 20-Oct. 1	R & M Mgt.: Modern Warehouse Management
Sept. 20-Oct. 1	Eng. House Mgt. Center: Design Skills

COMPANY NOTICES

MCCARTHY RODWAY LIMITED (Incorporated in the Republic of South Africa)	
NOTICE IS HEREBY GIVEN that a Final Ordinary Dividend No. 61 at the rate of 10/- per share and half cents per share has been declared by the Directors for the year ended the 30th June, 1971. The total value of the ordinary shares distributed in the books of the company at the close of business on the 30th June, 1971.	
The dividend is declared payable in the currency of the Republic of South Africa and dividend warrants will be issued in South Africa to shareholders on at date.	
For the purpose of establishing the shareholders entitled to participate in this dividend, the TRANSFER REGISTER of the company will be CLOSED from the 1st August, 1971 to the 1st September, 1971, both days inclusive. Shareholders are advised that any change of address and/or dividend instructions must be lodged with the Transfer Secretary as before the 3rd September, 1971.	
In terms of the South African Income Tax Act, 1962 as amended, the Non-Resident shareholders' Tax of 15% will be deducted by the company from dividends and other distributions in the register of members, except for those outside the Republic of South Africa.	
The Directors announce the following for the information of shareholders:	
FINAL ORDINARY DIVIDEND: No. 61	
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The Directors announce the following for the information of shareholders:	
GROUP PROFIT (before taxation) R2,000,000 R1,500,000	
Less: Taxation 668,009 515,099	
GROUP NET PROFIT 121,000 98,000	
EARNINGS PER ORDINARY SHARE R1,216,000 R1,040,000	
DIVIDENDS DECLARED PER SHARE: Interim Ordinary 41 cents 4 cents	
A comprehensive report on the Group's trading activities will be contained as usual in the Chairman's Review and the Report of the Directors to be issued in October, 1971.	
By Order of the Board.	
C. R. BANNISTER, F.C.I.S., Secretary.	
18th August, 1971.	
Transfer Secretary: Hill Samuel Registrars (SA) Limited, P.O. Box 8218, Marshalltown, Transvaal.	
RECORDED OFFICE: 180 St. Street, Durban.	
BRAITHWAITE & CO. ENGINEERS LIMITED	
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IN BRIEF

CANADA'S Prime Minister Mr. Pierre Trudeau said in a broadcast: "A weak Canadian economy is no help to the United States. We cannot sit idly and absorb the impact of the US surcharge, which, if it comes in effect against Canada, will hurt us more than any other country." However, he said Canada has no intention of retaliating because this could set in motion a trade war.

AUSTRIA'S foreign exchange market will remain closed to-day, failing to Switzerland's. This decision was taken at a special meeting in the Austrian Finance Ministry last night.

INDIA'S rupee-sterling parity will be allowed to vary according to the dollar-sterling rates on the London market, the Indian Government announced.

STOCKHOLM—The Government announced to-night that foreign currency dealing will resume in Sweden and that the parity value of the krona will not be altered.

DANISH National Bank said it is parity of the Danish krone will not be changed when Danish foreign exchange dealing resumes to-day. But the Bank of Denmark said it will suspend the 7.4438 intervention rate for buying dollars till further notice.

NORWAY'S Government will announce details to-day of the arrangements it proposes to make a renewed trading in foreign currencies. Mr. Per Klepp, Minister of Trade, said the government anticipated the value of the krona would rise "to a certain extent."

NEW ZEALAND Reserve Bank governor, Mr. Alan Low, said New Zealand banks are to continue limited dealings in foreign exchange to-day.

INDONESIA'S Central Bank said the foreign exchange market will reopen to-day after being closed since last Tuesday.

U.S. wants package deal from Japan

TOKYO, August 22. THERE WERE strong indications to-night that revaluation of its currency is only part of the price required from Japan for an end to the international monetary crisis. Japanese bankers and businessmen have been urging the government to revalue the yen upwards in return for removal of a new 10 per cent import surcharge imposed by the United States as part of its much programme to protect the dollar.

But Japan's Ambassador in Washington, Mr. Noboru Ishiba, who returned home to fight for urgent talks with the government, told reporters the US did not regard revaluation as his only pre-condition for removing the surcharge. Finance Ministry sources said the Americans were proposing through bilateral talks a package deal that would settle all outstanding economic problems between the two countries.

Finance Ministry officials to-night denied reports in Tokyo and Washington that Japan was demanding a dollar devaluation as part of such a settlement.

Reuter

Australia to wait and see

By Michael Southern, Australia Editor

SYDNEY, August 22. AUSTRALIA is to await developments abroad before reopening foreign exchange markets. Most European markets will not be open till Monday night Australian time and the governor of the Reserve Bank, Mr. J. G. Phillips, said developments there would be carefully watched.

Transactions in Australia tomorrow will be restricted to settling Australian residents' settle amounts contractually due in foreign exchange and to meet the needs of travellers.

It is generally felt that Australia will let its dollar float with the pound sterling for while at least. Although there are certain guarantees about the pound sterling being devalued, there is concern here that strong upward movements will affect the ability of this country to export at the higher costs that will be involved.

The move is an attempt to

Reactions to U.S. economic measures

Rates may fluctuate widely as London reopens to-day

BY MICHAEL BLANDEN

FOREIGN exchange markets trading purposes as companies reopen in London to-day in a catch up on the backlog left by an atmosphere of confusion. Business is expected to be hectic and rates may fluctuate widely as dealers attempt to get to grips with the uncertainties of an entirely new situation.

The decision to allow the pound to float upwards, announced late on Friday, was widely anticipated, and gave the market a week-end to consider some of its implications.

The banks welcomed the opening of the market after its five-day closure. But they are conscious that there is a wide area of doubt over the implications of the various policies adopted by individual countries to deal with the dollar crisis.

Official rate

Free from the restraint of official intervention at the upper limit, the pound is expected to move upwards against the dollar.

Based partly on the rates ruling in the New York market towards the end of last week, it is thought in official circles that sterling may establish a rate of around \$2.45-\$2.47, an effective revaluation of 2-3 per cent from its par value of \$2.40, which remains officially in force.

The working of the market will depend to a considerable extent on the tactics adopted by the various national authorities once the situation settles down, and on the co-ordination of central bank intervention. While the Bank of England has imposed a limit of \$2.42 for the pound, there is nothing to stop the Bank of England from stepping in to steady the rate or even perhaps to limit the size of the upward movement in the pound.

The London market is likely to be faced with a substantial volume of business for normal situation adds yet one more un-

Israel devalues its pound by 20% against the dollar

BY L DANIEL

ISRAEL to-day became the first country to devalue its currency therefore designed to prevent in the wake of President Nixon's the possible benefits accruing new economic policy statement from the devaluation being wiped out by an immediate price/wage

dollar is 20 per cent—from rise spiral. Wages are to be £3.50 to the dollar hitherto frozen until collective agreements now in force expire, bank

credit is not to be expanded, a levy equivalent to the percentage of devaluation is to be applied to all stocks on hand to prevent profiteering and controls are to be applied to prevent excessive price increases.

In contrast to previous devaluations (this is Israel's seventh within 19 years) which has reduced the value of the currency from £10.35 to the dollar in 1952 to £14.20 to-day) staples will not be exempted from the price rises as all sectors of the economy are affected. For this is clearly the second objective of the exercise—not only to maintain and develop exports but to cut imports of non-essentials and to reduce home demand in general not with a view to cutting down the import of raw materials for local production but to free production facilities for export.

Whether the Government succeeds in preventing a new upsurge of wages and prices in the present state of unemployment remains to be seen. The Finance Minister has already warned the country that if the devaluation is nullified by excessive price increases and a new wave of wage demands he will have to impose still further taxes in a desperate attempt to prevent the widening trade gap—\$1,400m. per annum from widening still further.

A number of measures accom-

This issue is made in accordance with a General Circular given by the Treasury under the Content of Government Order 1959.

Application has been made to the Council of the Stock Exchange, London, and to the Council of the Midland & Western Stock Exchange, for permission in due course to the Stock being issued.



CITY OF NOTTINGHAM

ISSUE OF £5,000,000 Nottingham Corporation 8 per cent.

Redeemable Stock, 1979-1980

Authorised by Resolution of the Council of the City of Nottingham and with the consent of the Secretary of State for the Environment and issued in accordance with the Local Government Act 1929, and the Local Authorities' Stock Regulations 1933, and 1956.

PRICE OF ISSUE £99 PER CENT.

Payable as follows—

On Application ... £10 per cent.

On 16th September, 1971 ... £20 per cent.

On 21st October, 1971 ... £30 per cent.

On 1st December, 1971 ... £39 per cent.

£99 per cent.

Interest (less Income Tax) will be payable half-yearly

A first interest payment of £22,500 less Income Tax per £100 Stock will be made on 1st March, 1972.

The Stock is an investment falling within Part II of the First Schedule to the Trustee in Bank Act 1961.

In pursuance of a Resolution of the Council of the City of Nottingham, NATIONAL WESTMINSTER BANK LIMITED is authorised to receive applications for the above amount of Stock at the address specified in the Form of Application.

1. SECURITY.—The Stock and interest thereon will be secured upon all the funds, rates and revenues of the Corporation from whatsoever source arising. The Stock will rank pari passu with the existing and future debt of the Corporation and will be liable to the same as and in the same manner as the Nottingham Corporation Loans, 1952, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971 and 1972.

2. PROVISION FOR REPAYMENT OF LOANS.—The Corporation is required by Act of Parliament and towards redemption of loans raised for capital expenditure and to make such returns to the Exchequer as may be required by the Secretary of State for the Environment.

3. PURCHASE OF STOCK.—The proceeds of the present issue of Stock will be applied to the purchase of stock in the market, and to the payment of debts due to the Corporation by the Stockholders.

4. REDEMPTION OF STOCK.—The Stock will be redeemed at par on 1st March, 1990, unless previously cancelled by purchase in the open market or by agreement with the holders. Further, the Corporation has the option to redeem the Stock at any time after 1st March, 1972, on giving three months' notice to the Stockholders in writing in the manner hereinabove specified.

5. REGISTRATION.—The Books and Registers of the Stock will be kept at the office of the City Treasurer, Guildhall, Nottingham NG1 2DE where all transfers of the Stock will be registered.

6. TRANSFER OF STOCK.—Transfers of Stock will be made in multiples of £100 Stock, or in multiples thereof in accordance with the Stock Transfer Act 1961, or in shares of £100 Stock.

7. APPLICATIONS AND GENERAL ARRANGEMENTS.—Applications on the form of application will be accepted by depositing £10 per cent. of the amount applied for, or £100 Stock, or £100 Stock and £100 Stock Certificate.

8. LETTERS OF ALIENMENT.—Letters of Alienment will be accepted by depositing £10 per cent. of the amount applied for, or £100 Stock.

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The Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOUTERS

• RESEARCH

Low energy forming

SUPERPLASTICITY in a number of metals and alloys is no longer just a laboratory phenomenon. It is being applied on a production-line basis to the manufacture of difficult shapes using far lower pressures than would normally be associated with a metal forming operation.

IBM engineers at Endicott, near New York, have been experimenting with superplastic metals for several years and have successfully established the techniques which enable this characteristic to be used in the factory.

Certain alloys, it has been known for some time, will stretch like plastics or glasses under relatively low heating and pressures. IBM have found they can be forced into quite complex patterns and when released from the mould will hold the required shape without springing back.

Low-forming forces of the order of 30 lbs are common, which means that several parts can be made simultaneously. The tooling materials are rela-

• INSTRUMENTS

Watch on pressure drops

IMMEDIATE alarm indication of a drop in flow rate below a preset level is provided by the in-line Rotameter type 2760 flow alarm by GEC-Elliott Process Instruments, Mt. Kisco, N.Y., U.S.A. supplies the meter to IBM.

At each maintenance call, the meter is reversed and its sliding scale set so the zero is over the gaining electrode. This gradually builds up, showing the hours of use on the scale. At any point, however, it can be reversed and the scale reset to zero.

The part is formed within a minute and the part remains in the mould for a further four minutes under strengthening heat treatment. Preparation of the mould would take six weeks or about a quarter of the usual time.

Other parts, however, made on a routine basis are a slotted lamp cover and a heat exchanger core, both rather difficult shapes to produce by any other method.

Further details of this work are available from the company at 1701 North Street, Endicott, New York 13760, United States.

Now, in an instrument to measure use of an electric typewriter, the meter can be reset by moving its scale. The device will be installed by IBM service men to show when the typewriter has been used enough to require routine maintenance. Curtis Instruments of 200, Kisco Ave., Mt. Kisco, N.Y., U.S.A. supplies the meter to IBM.

From an environmental point of view the chief virtue of the system is that it eliminates the need for the ugly gas burners that have for so long been a dominating feature of both town and countryside. At Biggin Hill, the South Eastern Gas Board secured some 20 acres of land for its project and most of this will be restored and used once more for farming.

The storage system consists of about three miles of 42-inch diameter pipes laid underground. There are 17 lengths, each 1,040 feet long, laid with a slight fall of about 15 feet in each length.

Parallel lines and terminating in benders which either carry the gas to the pressure let-down units or bring it from the compression stage for storage.

Town gas storage will come from the 12-inch diameter after London main operating at 100 to 180 p.s.i. about 2½ miles away, while a second source of supply, which will be used after conver-

sion to natural gas has been completed, will be the 18-inch diameter supergrid running from the Isle of Grain in north Kent to Hooey in Surrey and about two miles away. This source will be used after conversion to natural gas.

Storage of gas will be from inlet pressures of 100 to 180 p.s.i. and this supply will be compressed to fill the storage pipes by means of large compressors driven by 2,000 h.p. Brush electric motors connected to an 11 kV power supply. Electricity will normally be used in the off-peak period and the annual bill for power will be about £40,000.

Only two men will be needed to run the system and operation of the whole plant will be controlled from a central console. However, the South Eastern Gas Board is already looking to the time when it will operate the plant from its central control room several miles away in Croydon. Mr. David Woodall, the Board's area controller, told the Financial Times: "If this system proves as successful as we feel it will be, then we shall go ahead with another installation."

The main contractor for the Biggin Hill project is Hurneys and Glasgow with Sir Robert McAlpine as sub-contractor. Work on the site began in July last year.

The ends of the storage pipes of the South Eastern Gas Board's underground system at Biggin Hill, Kent, project into a concrete-lined trench. As can be seen here, the pipe ends are closed by high-strength steel domes which connect with the main supply header and through which they are linked to the gas compressing and pressure let-down equipment. This trench will eventually be roofed over.

Measures strain

THE range of high-precision foil strain gauges manufactured by Environmental Equipment, Dr. Roy Wokingham, Berks, has been expanded by 20 additional types.

Standard linear gauges are now available in lengths from 0.5 mm to 90 mm, and multi-element rosettes, including stacked rosettes, from 1 to 10 mm. The new gauges include a 50 x 10 mm, 120 ohm resistance line and "on site" applications; a 25 mm dia. four-element diaphragm gauge for pressure measurement; and gauges of various lengths suitable for detecting crack propagation in brittle fracture and fatigue failure investigations.

Selected lengths of linear gauges are available in the foil yield series which enable strain to be measured up to 20 per cent to the measured.

All gauges are encapsulated with short lead wires attached.

The company supplies a full range of associated equipment, including strain measuring instrumentation.

There is a dual-output model for heat-control of plastics machines.

The scale is 400 mm and the controls are fascia mounted behind a lockable door. The instruments accept thermocouple inputs and thermocouple break protection and automatic cold protection and automatic cold compensation are fitted as standard.

Euromat, from its Broadwater Trading Estate, Worthing, Sussex, has been expanding rapidly, not only in the U.K. but also into countries overseas. Subsidiaries have been set up in Germany and Switzerland, following the establishment last year of a bridgehead in the United States.

The company now is established in most European countries, Australasia, Japan and South Africa.

It will be in full production of the new range by September this year.

SOLID-STATE indicating temperature controllers from Euromat are self-contained for up to 25 Amp output through relays or thyristors. The units are of three-term control action type and have a variety of optional output modes to cater for virtually any industrial application that a designer could require. There is a dual-output model for

measuring 33 inches by 18 inches by 10 inches deep. Each carrier is numbered, and the three tray positions are coded A, B, and C so that tray No. 683C always refers to the lower tray position of carrier No. 683. The carriers are coloured alternatively blue and yellow, providing a capability to operate at half strength if required by using only the yellow, odd numbered, carriers.

The main conveyor, which circulates in the order picking areas can move at any speed between 15 and 90 feet/minute, depending on the order requirements for the day, with a total circuit length of 1,500 feet, and at the present average speed of 35 feet/minute, one complete circuit takes 45 minutes. With a total of 600 carriers on the conveyor, this provides the capability of handling 2,400 trays per hour at present, with a maximum rated throughput of 6,000 at top speed. All other conveyors in the system operate at fixed speeds.

The control system Bagshawe designed enables the warehouse manager to adjust the speed of the main conveyor each morning—or at any time during the day—to suit the workload for the day. Details of the orders received are fed into a computer which then issues instructions to the order pickers, giving full details of what items are required, which tray and carrier the items are to be inserted in and on what circuit of the conveyor.

With a floor area of 1,000 square feet to be erected, Bagshawe and Co., mechanical banding designers, were called in to advise at the earliest stage, as it was envisaged that the warehouse would be basically automatic in operation.

The main problem was to devise and install a system which would be able to cater for about 35,000 parcels a day—made up of possibly 100,000 items to be despatched from the warehouse in response to customer orders.

All the items are stocked in the warehouse, and any order received is to be despatched within 48 hours.

Goods, coded for identification, are stored in numbered racks on three floors of the six-level building; a Bagshawe ES overhead conveyor circulates around these three floors in turn, supporting carriers of special design which can handle over 125 cubic yards per hour. Using a ram pressure of 200 psi and a thrust of 23 tons holding three order-picking trays of 39.5 psi and a thrust of 23.38 metres.

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The main problem was to devise and install a system which would be able to cater for about 35,000 parcels a day—made up of possibly 100,000 items to be despatched from the warehouse in response to customer orders.

All the items are stocked in the warehouse, and any order received is to be despatched within 48 hours.

Goods, coded for identification, are stored in numbered racks on three floors of the six-level building; a Bagshawe ES overhead conveyor circulates around these three floors in turn, supporting carriers of special design which can handle over 125 cubic yards per hour. Using a ram pressure of 200 psi and a thrust of 23 tons holding three order-picking trays of 39.5 psi and a thrust of 23.38 metres.

measuring 33 inches by 18 inches by 10 inches deep. Each carrier is numbered, and the three tray positions are coded A, B, and C so that tray No. 683C always refers to the lower tray position of carrier No. 683. The carriers are coloured alternatively blue and yellow, providing a capability to operate at half strength if required by using only the yellow, odd numbered, carriers.

The main conveyor, which circulates in the order picking areas can move at any speed between 15 and 90 feet/minute, depending on the order requirements for the day, with a total circuit length of 1,500 feet, and at the present average speed of 35 feet/minute, one complete circuit takes 45 minutes. With a total of 600 carriers on the conveyor, this provides the capability of handling 2,400 trays per hour at present, with a maximum rated throughput of 6,000 at top speed. All other conveyors in the system operate at fixed speeds.

The control system Bagshawe designed enables

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(Established 1881)

Incorporating THE FINANCIAL NEWS

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MONDAY AUGUST 23 1971

The danger to world trade

WHEN FOREIGN exchange markets open this morning the dire threats of retaliation are bound to be floating. There only likely to stiffen the American can be no question but that the case in their resolve to stand British Government has taken pat. This applies also to the right decision. An attempt posals, such as those now being to hold the old rate would have put forward in Brussels, that been defeated by market forces. To go to a new fixed rate in industrie likely to be hardest present circumstances would be hit by the American move. Once has been sheer madness. As it is the authorities have given themselves much needed flexibility not only in what is bound to follow and the experience of the post-war years to be an uncertain short-term cult it is to abolish artificial future in markets but also, if they play their cards right, to exporters once these have become established.

This leads on to the second broader consideration. If it does turn out that the surcharge represents more than a temporary bargaining weapon, then it do a more protectionist U.S. stance, the rest of the world will have to think again. But certainty on this point can only be established if the currency situation is sorted out first.

Clearly at this stage there is no prospect of concluding a realignment of currencies with a thorough reform of the world monetary system.

Obstacles

There is no chance of getting currency relationships right by fixing new parities in key countries now. The political obstacles are too great even if the economics were straightforward. (In retrospect after all it is clear that the amount of the 1967 U.K. devaluation was just about right. But it took nearly two years before this became obvious.) For the moment then, the important currencies must be allowed to float. This applies to the rest of the world, particularly to the Japanese yen—much more important in this context than the French franc because of the yen's considerable under-valuation and the size of U.S.-Japanese trade. In itself, this would not resolve all the problems and lead to the political pressures of high unemployment, the administration is likely to have to ease in establishing the one essential pre-condition. If, on the other hand, removal of the surcharge. In there were to be protracted this situation two considerations should guide policy: the first the danger of a trade war would tactical, the second more fundamental, passed.

It is perfectly right and proper that the rest of the world should point out to the Americans that the surcharge is contrary to GATT rules and that at the least a time limit should be set. But there should be no illusions that, with Washington itself, this would not resolve all the problems and lead to the political pressures of high unemployment, the administration to foreign demands for a condition. If, on the other hand, removal of the surcharge. In there were to be protracted this situation two considerations should guide policy: the first the danger of a trade war would grow with every day that passed.

The fruits of internment

IT IS NOW two weeks since Catholic minority now regards the policy of internment was instituted in Northern Ireland as the active instrument of an enemy Protestant and, while the situation is still confused, quite enough has occurred to allow a provisional balance to be cast. To begin with the success side of the ledger, it may be said that internment has certainly had some of the results expected of it—it has calmed a dangerously restive Protestant majority and enabled Mr. Brian Faulkner to reassert his control over the from being one of the few Unionist Party's zealots. How stabilising factors into a defences this control will last until less destroyed the ground on seeing that number of powerful enemies to his Right are still busily undermining his position. But at least Mr. Faulkner has gained a short breathing space.

Disappointing

The security dividends from internment have not been entirely non-existent, but they have been disappointing. Some dangerous individuals are certainly under lock and key and the IRA are protesting rather too much to be entirely credible when they claim that their command structure is intact. On the other hand the inexperience of the operation was widely suspected before it took place and considerable numbers have undoubtedly slipped through the net. It may be true that neither branch of the IRA, by itself and without the active assistance of the Catholic population, could now last long in an open confrontation with Army in the streets; but it does not look as if the underlying situation is much better than it was during the era of explosions and shrapnel which preceded internment.

However, by far the gravest consequence of the arrests has been their effect on the Catholic population. This has far exceeded both in scope and depth anything that the authorities can say. Before internment Mr. Heath last week was to say it was plausibly be said that only the least tactless. But Mr. Heath would be unable to fall into serious conflict with a man who is certainly able within it has to be faced that limits, and possibly willing, to considerable section of the help.

IRELAND: THE ECONOMIC TIES BETWEEN NORTH AND SOUTH

What Dublin and Belfast still have in common

Despite the crisis in North-South relations, the two parts of Ireland, and the two leaders, still share a great deal of common ground, both in economic and political affairs. Dominick J. Coyle, in Dublin, examines the strength of these ties



Mr. Jack Lynch (left), the Eire Premier, and Mr. Brian Faulkner, Prime Minister of Ulster: in an odd sort of way they may



even be said to complement one another.

The 'economic border'

Even before the tragic events of the past two weeks, it was difficult to find much common ground between Dublin, Belfast and London on the "Irish question". Yet all three Governments, both publicly and in private discussions, supported the notion of closer economic

regional projects spanning the frontier.

Industrialists on both sides of the border have long been firm advocates of greatly increased economic co-operation between the two parts of Ireland, but many of them have been inhibited for political reasons. Equally, officials of

the two Governments concerned with industrial development are very conscious of the fact that the worst development problems

including Northern Ireland. By to Ulster but Northern these links.) This allows both coincidence or design, trade Ministers felt that this was electricity authorities to budget between the two parts of something they would have to for a much smaller margin of spare capacity, resulting in an estimated saving of some £10m in capital investment between the two Governments.

Further, there is a feeling in Ireland that Northern Ireland should not ask for concessions within the Anglo-Irish trade pact which do not apply to Britain generally, since that would amount to a political decision.

Both sides, then, have been looking to the EEC, the argument being that the initiative—and, hopefully, much of the necessary finance—would be seen to come from European institutions and thus represent a further meeting in Belfast at a political "concession" by the two Governments.

Mr. Faulkner has pointed to this imbalance in North-South trade as proof that Dublin is getting the better bargain, particularly since goods from the Republic enter Northern Ireland free of duty, whereas

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Metals in Industry

Financial Times Survey

Expected revival slow to materialise

JOHN EDWARDS

The past year or so has been a slightly better time for virtually all sections of the non-ferrous metals industry. The effects of the longer-than-expected recession in the U.S. economy, spread throughout the world from Japan to Europe, even to Australia, bringing a general decline in industrial activity and reduced demand for every non-ferrous metal. After the boom years 1968 and 1969, when demand prices for metals soared, supplies were short, was perhaps inevitable that there should be a period of recession. But the downturn lasted longer than anticipated, with no signs yet of the revival materialising, the metals industry has had to continue operating in depressed conditions. The result is a dearth of consumer buy-interest that most metals now in too plentiful supply, the new production planned for happier times comes on stream and has difficulty in finding a market to go to.

Perhaps the best example is aluminium. Over the years the industry has become used to an average growth rate of 8 per cent per year, which means an increasingly large rise in production capacity has to be created to keep pace with it and as the total size of the market grows.

The same pattern of events, with variations, has also hit most of the other major metals. Nickel, which was in such short supply only two years ago, is now suffering from such a

Large discounts

In these circumstances price levels, fixed by the producers, have not held firm either. It is openly admitted that large discounts on the published quotations are being given by aluminium producers all over the world, including Britain, where for example the London free market for aluminium is currently around £170 a ton, against the official producer price of £257.2 a ton. For producers this means accepting a lower return at a time when costs are rising sharply and being pushed up still higher by the reductions in output which cancel the benefits of being able to operate at near 100 per cent capacity.

The same pattern of events, with variations, has also hit most of the other major metals. Nickel, which was in such short supply only two years ago, is now suffering from such a

up to an all-time peak of over 100,000 tons.

But the decline in values to below £400 a ton, predicted by some pessimists, has not been realised. This is not so much a tribute to any strength of demand, but rather to shortcomings in output which would normally have seen values

meanwhile, the world's biggest producer of copper, the U.S., was hit by a surprising across-the-board strike by copper workers who were unable to agree terms of their new labour contracts. Although settlements with several producers were reached after a month, while others took longer to settle the dispute, it is estimated that losses in output totalled some 150,000 tons—more than the bare minimum. The situation is not helped by countries such as Japan, finding themselves holding surplus stocks and dumping them on world markets at cut prices, especially

for example, consumers such as the steel industry, faced with bad times in their business, tend to cut costs, by reducing stocks and purchases of minor metals such as antimony, bismuth, cadmium, selenium and wolfram (tungsten ore) to the bare minimum. The situation is not helped by countries

such as China, the world's biggest producer, and free-market antimony prices have now dipped below £3,500 a ton compared with the £3,500 a ton being charged in early 1971.

Once demand does start to pick up it is surprising how quickly surpluses disappear and the impact is quickly felt in metals.

On a long-term basis there is no doubt that prices of metals will have to keep trend with production costs if supplies are to be sufficient to cope with the world's normally insatiable appetite for the resultant products.

Tales of woe

Despite the tales of woe for the major metals, and their by-product of another metal, as is cadmium of zinc, and when it is the "minor" metals that its price does not directly affect the decline in industrial activity. After a false revival in the previous U.S. owners, Peru, have suffered even worse from the decline in industrial activity. However bad conditions may be, there is always a basic demand for most of these minor products.

Lead and zinc begin to recover

By R. L. STUBBS, Director General, Lead and Zinc Development Associations

Lead and zinc consumption, ton in mid-June, 1971, and in be seen as the first stages in a of zinc metal. And in any case stage in the manufacturing process at steel mills. This new product makes possible more colourful building and is opening up many new applications for an already well-established product.

Although zinc has lost little ground to substitutes in recent years, questions are now being asked about the possible effect of the recent increases in price.

Nevertheless, these increases were not out of line with those of other commodities and with inflation generally.

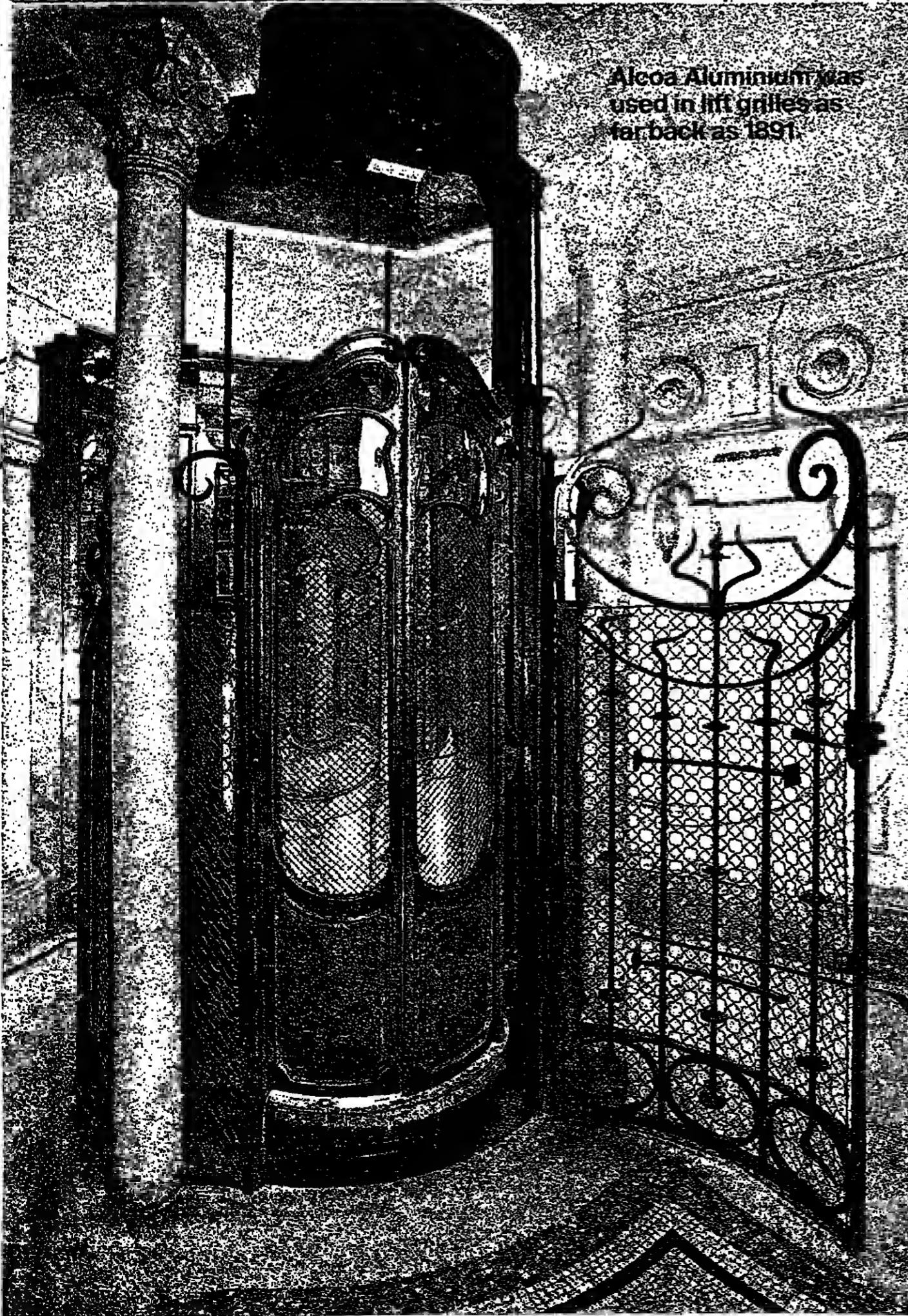
Largest importer

The U.K. is the largest single importer of zinc in the world, with EEC membership of the particularly in the U.S., which is still recovering only slowly from setbacks in a number of U.S. where producers' stocks built in several countries and it is falling faster than elsewhere. There are signs of a when these start up, more old plants will be phased out.

At home, membership of the EEC should bring a brisker resulted in several American plants being shut down. As after the U.S. and when it is slow fully integrated into the EEC.

World producers' stocks of consumption began to fall, well drawn into the EEC. Last year, have been falling in some producers announced curbing proportion of its metal recent months. The producers' fall in output, and more supplies from other EEC countries, have raised, after the Imperial Smelting Corporation in Britain closed EEC, even taking into account new production, will continue that is now supplied with a colour-coated finish as the last

Continued on next page.



Alcoa Aluminum was used in lift grilles as far back as 1891.

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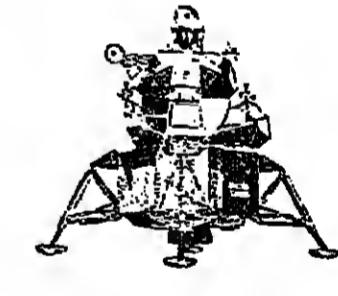
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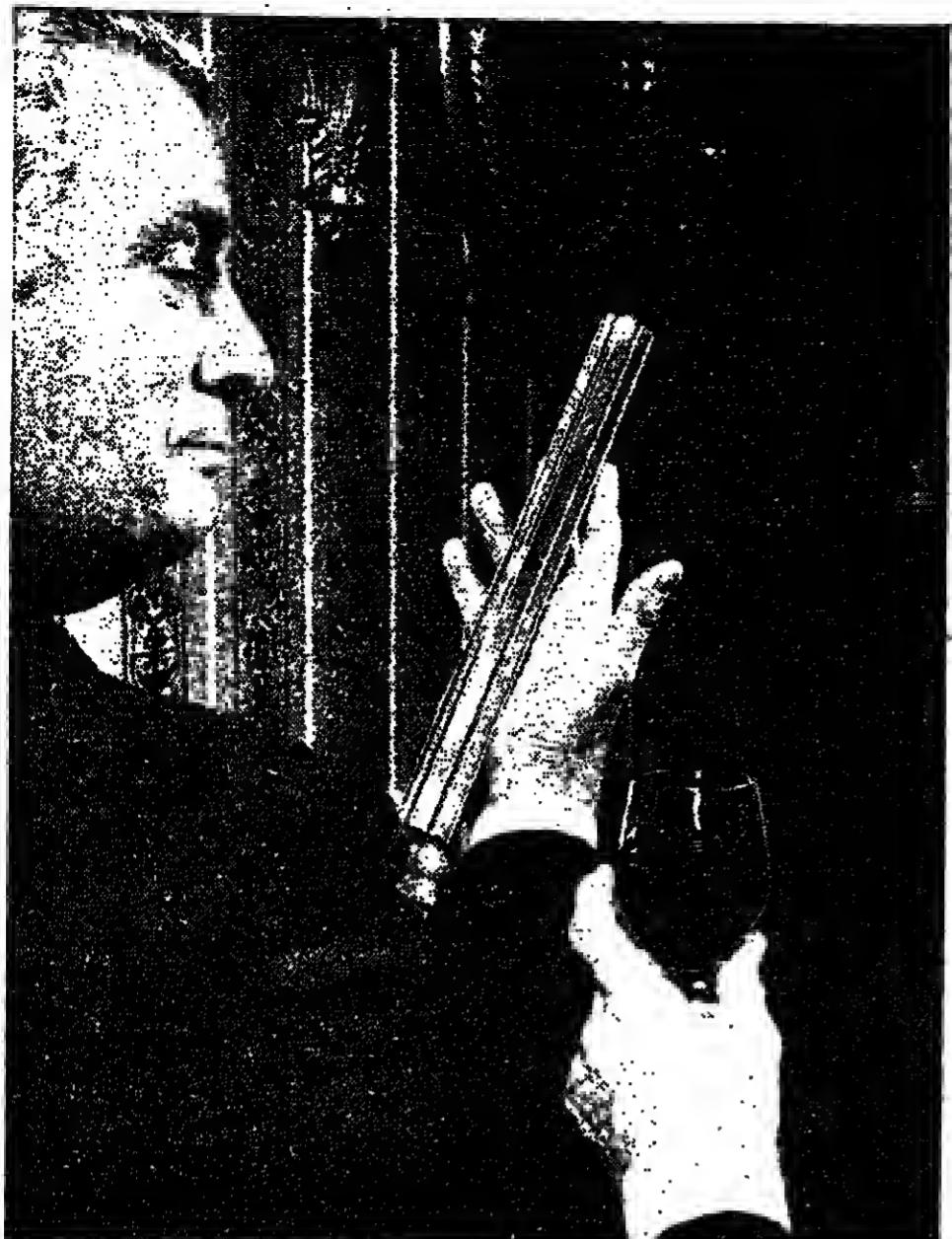
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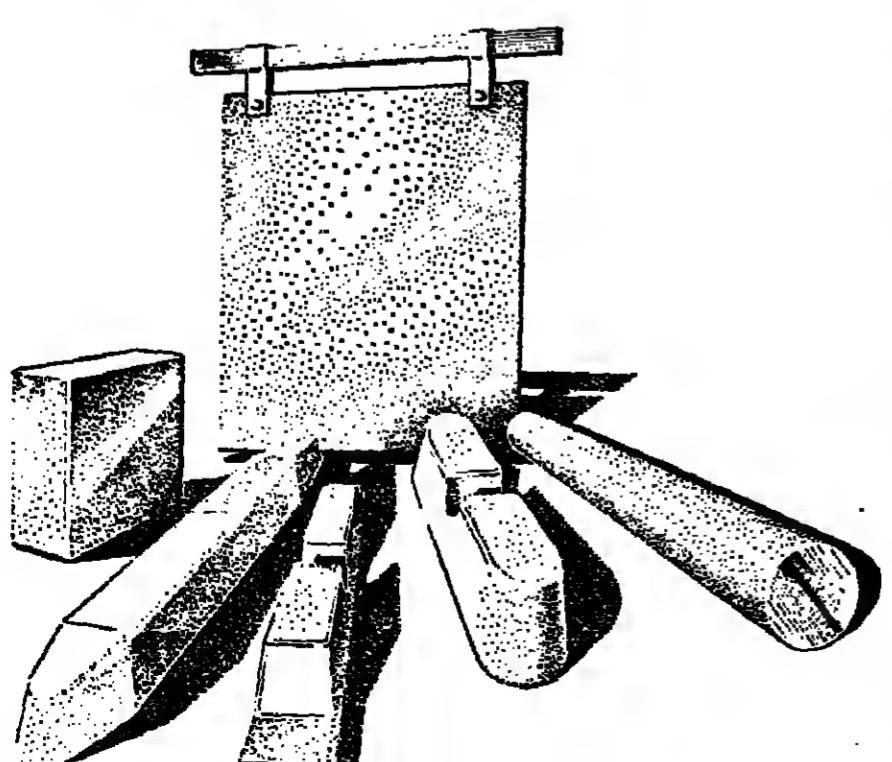
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METALS IN INDUSTRY II

Copper loses some markets but finds new ones

By JOHN EDWARDS

Despite the wild price fluctuations and irregularities in supplies, consumption prospects for five in the past in switching copper are promising since it is away from copper to the less still the best material available expensive aluminium, there is for a wide variety of uses, an equally strong body of There is no doubt that copper opinion that considers the has lost a good many markets higher price worth paying for to rival materials, such as aluminium and stainless steel, but term problems with materials, it is constantly finding new for example, that do not have outlets and indeed recapturing copper's resistance against old markets when prices return to more reasonable levels.

In marginal areas, including certain sections of the electrical industry and building, the Development Association, which various unpredictable rises and falls in the price of copper do tip the balance against it in favour of a steady price material, with assured supplies, but in many applications copper has so many natural advantages that consumers are prepared to suffer the trials and tribulations of erratic supplies.

Scrap value

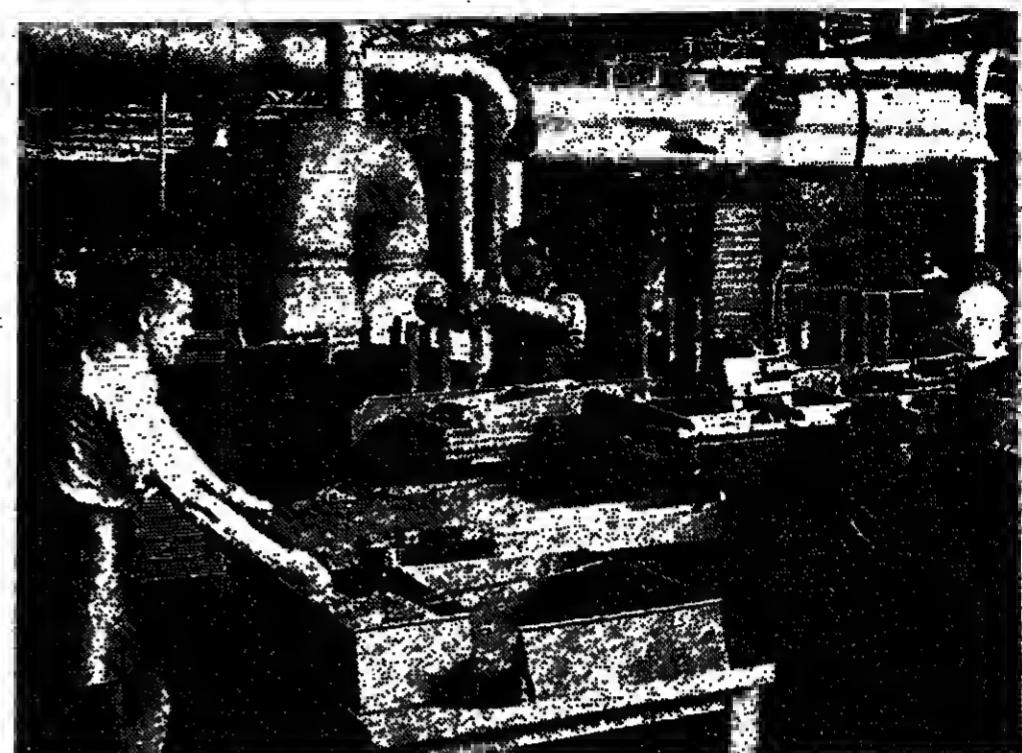
One big advantage enjoyed by copper is its relative indestructibility, allowing it to be constantly re-used, which means that its scrap retains a high value in relation to the price of the primary material. Thus while an offcut of a stainless steel tube, for example, is worth little or nothing, the same offcut of a copper tube is saleable and goes back into the scrap cycle. The same applies to many of the copper alloys, such as brass, bronze and cupro-nickel.

In the electrical industry the superior conductivity qualities of copper, as well as its ability to be jointed easily, means that it remains supreme in heavy electrical generating plant, for instance, and is able to resist the challenge of aluminium in several other areas. Although

It is hoped that a rolled-form copper window frame may also gain wider acceptance, but as with roofing and other building uses, the price of copper at a particular time is the key to whether or not it is substituted by a rival material.

Copper's anti-corrosion and erosion qualities are also opening up new markets, particularly in the anti-pollution drive, and

booster of making fresh inroads into the chemicals industry have been raised, in Britain particularly, by work on steel tubes with copper linings inside joined by explosive forming.



Copper tubes and fins for motor radiators being loaded before soldering.

strength of steel with the qualities of copper, are not new but progress has been made in Britain to produce tubes with much wider diameters and longer lengths so the range of application can be considerably increased. The quantity of copper used in these tubes is quite

in the U.S. another big potential market being developed is copper-nickel bulls for boats. Tests on what is claimed to be the world's first barnacle resisting copper-nickel bulled shrimp boat are reported to have been very successful and the way

These tubes, combining the strength of steel with the qualities of copper, are not new but progress has been made in Britain to produce tubes with much wider diameters and longer lengths so the range of application can be considerably increased. The quantity of copper used in these tubes is quite

hulls for larger vessels, such as oil tankers.

In the road transportation market, research is going on into using copper's heat dissipation qualities in disc brake alloys and providing better wear resistance for carburetors. A

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METALS IN INDUSTRY III

Slack period for aluminium

By JOHN EDWARDS

Aluminium producers are caught in a difficult dilemma at present. Unexpectedly poor demand in the past two years, during a period when the U.S. in particular has suffered an economic recession, has created a surplus of supplies. And with the new production capacity planned in earlier optimistic days coming on stream, there is every prospect of supplies continuing to be more plentiful than demand for the next two or three years at least.

In these circumstances a rise in prices would hardly be advisable, especially since aluminium's competitiveness against rival materials is based on how soon the U.S. economy starts to recover, bringing a revival in U.S.

and stable price. But like everything else these days costs of production are rising inexorably, pushed still higher by the necessity to cut back output well below the 100 per cent of capacity where costs are cheapest.

Some people believe that the aluminium producers might do better on improving profitability, by charging higher prices and selling smaller quantities, but for the next few years at least the traditional policy of keeping prices as low as possible and selling as much as possible is likely to be followed.

Much depends on how soon the U.S. economy starts to recover, bringing a revival in U.S.

industrial activity, but meanwhile aluminium is making strenuous efforts to break into various new markets.

Transportation including the car industry, is the largest user of aluminium and still offers some of the biggest potential.

Aluminium companies claim

that research and testing has

now overcome past technical

troubles with aluminium car

radiators, making it price com-

petitive even if copper remains

between £400 to £450 a ton.

Good progress has been made

in the development of alumin-

ium cylinder blocks and

also with the al-aluminium

engine, which has been used

for General Motor's latest sub-

compact model, the Vega. In the

changes can ignore price com-

petitiveness.

In Britain the expected growth in popularity of automatic transmission systems could bring increased demand for aluminium, since their manufacture requires a far bigger proportion of aluminium castings.

So assuming automatic

systems do substantially en-

large their present 15 per cent

share of the market in the next

few years—following the pre-

cedent set in the U.S.—a signif-

icant new market for aluminium

could be created.

Car grilles and electrical

equipment are two other areas

where aluminium is pressing

hard, but it is being challenged

by rival materials especially

in car trim where fashion

changes can ignore price com-

petitiveness.

Aluminium has won most of the "easy" markets in electricity from the erratically priced copper, so the going is

that much harder nowadays. But

the development by British

Insulated Callender's Cables of

the copper-clad aluminium wire,

enabling better jointing, has

widened the potential scope for

further expansion. Inroads are

being made into post office

telephone cables and railway

signals, as well as the domestic

wire market.

Meanwhile the producers are

taking direct action to avoid the

burden of too adequate supplies

in the U.S., by far the world's

biggest producer of aluminium,

all the biggest manufacturers

have now cut back their output

substantially and have post-

poned or even cancelled some

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But it should be remembered

that once industrial activity in

aluminium has made great

strides in providing the soft top

in the U.S., Europe and Japan re-

and bottoms for beverage cans turns

with the tear off opener, which

has to rise by an average of 8

has revolutionised both the per cent annually to keep pace

alcoholic and soft drinks market with consumption. Over the

But a changeover to the all years it has been found that

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bad years, when the growth rate

in Britain, particularly, where

temperate is more competitive

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Of more promise is the foil and

rigid foil container market,

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lot of growth. The increasing

use of refrigerators and deep

freezing units is continually

boosting sales of foil, while the

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However, probably the fastest growth market for aluminium is in building. Double glazing, window frames, partitions and decorative cladding are just some of the growing uses for aluminium in industrial and private building.

With the three big new aluminium smelters coming on stream in Britain, and pressure from imports building up, there is little doubt the aluminium producers are going to remain under considerable pressure for some time yet. Indeed some sources do not expect any increase in the price of primary aluminium ingots, from its present level of £257.2 a metric ton, for several years.

It is no secret that at the moment the aluminium producers are heavily discounting the official quoted price, reducing it to around £200 a ton on occasions, while on the free market aluminium is trading as low as £170 a ton.

Futures market

The London Metal Exchange has an ambition to start an aluminium futures market to provide an independent pricing medium and hedging facilities against price fluctuations, but the producers are implacably opposed to the idea while consumers would hardly welcome the kind of fluctuations that make copper pricing and stocks a nightmare. The odds are, therefore, that even if the Metal Exchange does go ahead with the project, it will have difficulty in obtaining sufficient regular supplies to service dealers properly, and trading is more likely to be concentrated among merchants or dealers.

Meanwhile the producers are taking direct action to avoid the burden of too adequate supplies in the U.S., by far the world's biggest producer of aluminium, all the biggest manufacturers have now cut back their output substantially and have postponed or even cancelled some of the expansion plans scheduled.

But it should be remembered that once industrial activity in aluminium has made great strides in providing the soft top in the U.S., Europe and Japan re- and bottoms for beverage cans turns with the tear off opener, which has to rise by an average of 8 has revolutionised both the per cent annually to keep pace with consumption. Over the But a changeover to the all years it has been found that aluminium can seem unlikely bad years, when the growth rate in Britain, particularly, where temperate is more competitive than elsewhere.

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Keeping pollution under control

By E. C. MANTLE, Deputy Director, British Non-Ferrous Metals Research Association

Present concern about the in reducing pollution levels, water, A companion volume to environment is possibly the first particularly over the past that on effluents has been published evidence that society is really decade. It is a justifiable claim based on water conservation in beginning to bother itself about that we have completed stage the industry, dealing particularly with the design and operation of the fruits of the technological revolution, in the cleaner and our waters more systems.

A considerable co-operative searching. Now society is beginning to think about the consequences. This is happening one of the major sources of the more important air pollution

all over the industrialised world. Many want to get in touch with the act, and environmental control means vastly different things to different people. Public debate seems to be and in air pollution measures largely the prerogative of the Heavy metals such as copper, nickel and zinc, while beneficial

in small amounts to some forms of life, are toxic towards fish in anything more than trace quantities. Their effects on biological sewage treatment is less marked, although sufficient to make large concentrations unacceptable. The copper industry therefore has for many years had to take steps severely to limit the quantities of these elements released in effluents.

Experience gained in the design and operation of effluent treatment plants was incorporated in a Manual published in 1965 by the British Non-Ferrous Metals Research Association, which has been translated into French and German and is recognised as an authoritative book on the subject. The construction of effluent treatment plant is fast becoming a considerable industry.

Close interest

Through its important international membership the BNF has been in a favourable position for keeping in touch with progress overseas. Where alternative approaches are being tested they are being watched with close interest. The BNF organised a successful conference on "Air Pollution and Water Conservation" in Basle in 1968, gathering together experts from several countries concerned specifically with the problems of the non-ferrous metals industries.

Stage one in the reduction of air pollution has been completed; but clearly there will be a stage two, requiring more stringent measures and necessary research of the non-ferrous metals industry. Encouragement for progressive improvements towards the ideal is likely to be more rewarding than a crusade against industry.

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METALS IN INDUSTRY IV

Research work must be geared to the industry's requirements

By Dr. A. J. KENNEDY, Director, British Non-Ferrous Metals Research Association

Seen against the economic have had to deal with this outmoded, or "against the and its participation in non-industrial research and development—research with groups of members acting as the sponsors, would not be possible if the background, the pruning-back in pincer operation in terms of trend," or "not appropriate" to ferrous metals activities on a modern industry. The truth is world scale. The important new features have been concerned with processes: gained at a worthwhile level of

the past few years in this of their members. The BNF country is not difficult to understand. Times have been hard, considerably in the last six years and R & D has had to take or so, but only in its mechanics of the cuts along with as it were, in its modes of most other things. Unfortunately, there is no magic formula for calculating just how deep remains that of contributing in the cuts should go, nor for every way it can to the well-distinguishing between what is good and what is bad in these matters: it would be comforting if there were. We can be certain of one thing, and that is that there is no chance whatever of our present technologies, in non-ferrous metals or in any other field, going unchanged for ever. Changes are inevitable; the real question is how we are prepared to deal with them.

Whatever misguided expenditures there may have been on research and technical development in the past, and whatever we may learn (and ought to learn) from the post-mortems, the fact remains that one way or another we have to earn a living in a technical world. Tough measures to reduce expenditure are one thing, and research could even bloom more vigorously in a somewhat harder climate, but we delude ourselves if we believe we can get by without it. The issue is really that of fitting R & D successfully into the framework of industrial enterprise, integrating it closely with the life of industry and producing it well. Reading the statistics, this last requirement, seems at times to count for nothing in a system where research is often simply measured in terms of expenditure and numbers of people.

The consequences of such recent re-appraisals of research effort have naturally affected all research organisations in within its members' works one way or another, including through their co-operation and the Research Associations. These goodwill. This is one reason have, at the same time, been why the concept of membership required to face up to the times argued in the rarefied effects of a Government policy which, by holding fixed the total academic debates which take sum available as RA grants, has place from time to time on what effectively reduced their value is called research philosophy year by year. Different RAs that collaboration in research is

research with groups of members acting as the sponsors, would not be possible if the BNF project have all so far service work could not be maintained at a worthwhile level of effectiveness, backed up by research with continuous casting, hydrostatic extrusion, furnace performance, search laboratories and staff. The subscription principle is highly appropriate, enabling the BNF to offer useful services to its members, and at the same time providing for research and development work of wide benefit to its industries—a good contemporary example of this is its work on air pollution and on environmental matters generally. The ability to take up quickly some exploratory research on subjects of pressing industrial concern is an immensely valuable feature of this "subscription fund." Where appropriate, projects can subsequently be defined and established on a group-sponsored basis, enabling those that want the results of the work to pay directly for it.

Strong support

Over the last five years, the number of Associate Members (that is, overseas members outside the Commonwealth) has increased from 25 to 42. BNF membership subscriptions plus Government grant. By the end of 1970, its sponsored earnings of an individual member includes many of the important fabricators in from 1965 inclusive had reached £170,000 over the last five years) the total income from all classes of sponsored work has now reached a level which exceeds the income from the traditional RA sources, that is, from membership subscriptions plus Government grant. This income from sponsored work (£35,000 in 1970) covers 21 countries. This sector is equally foolish to propose Europe and the U.S. and now £1.2m. This income from sponsored work (£352,500 in 1970) that there is no place for commercial in-company research; the membership provides clearly there is. 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METALS IN INDUSTRY V

New welding techniques offer cost advantages

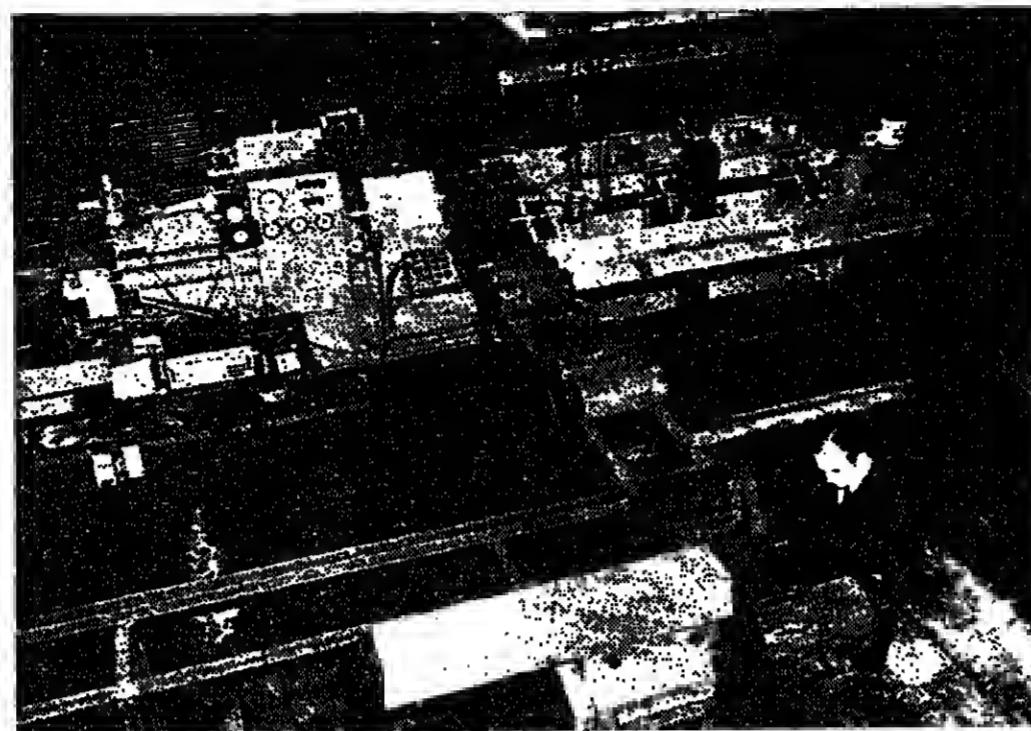
By TONY FRANCE

For industrial fabrication the most commonly used non-ferrous metals are aluminium, copper, nickel, titanium and magnesium, together with their wide range of alloys such as brass, aluminium-bronze and the nickel alloys. Unfortunately non-ferrous metals when heated react with the atmosphere to a greater degree than steel, which makes them more difficult to weld.

Friction welding is one of the few processes which produces successful welds between dissimilar metals. When a really large machine was installed at British Aluminium's new smelter at Invergordon friction welding made an impact in the non-ferrous world. The machine at Invergordon is used to weld the anode hangers for the smelter lines, providing joints between the massive aluminium bus-bars and the steel anode hangers, producing a joint with a cross-sectional area of over 20 sq. in. in about 1½ minutes. It is estimated that savings of up to £35,000 a year over other methods of making these joints will be achieved.

The cost-saving aspect has aroused interest for other non-ferrous applications, for example, in the manufacture of long phosphor bronze bolts. These are traditionally made by machining from hexagonal bar, but by friction welding a smaller diameter length of round bar to a short length of hexagonal bar (to provide the head), a considerable reduction in metal wastage (as swarf) and in machine time could be achieved. Titanium is another metal that produces welding problems because it is extremely reactive when heated in air—with friction welding no protective atmosphere is required to shield the weld area, and titanium components of circular section present no problem.

A development in friction welding is a prototype sensing system which will lead to automatic monitoring and finally to automatic correction if any parameter of the machine cycle seems likely to result in a faulty weld. (The Welding Institute has applied for patents on the system.) The prototype device provides control of the friction scale. The Welding Institute is welding machine by adjusting developing an electron beam only two settings—one knob gun which it is hoped will controls the dynamic conditions eventually operate at a 75 kW at the interface, the other the output—this will weld steel up



A friction welding machine at work producing aluminium/steel anode hangers for the new British Aluminium smelter at Invergordon.

to 6 inches thick and aluminium alloy up to 12 inches thick. Admittedly there are no applications for 12 inch thick aluminium which immediately spring to mind. The Americans have built a submarine in 8 inch thick aluminium, but that was bolted together. The thought of single pass narrow 12 inch deep welds is attractive—and may lead to very thick aluminium pressure vessels for cryogenic chemical engineering applications, or, a more likely application, for welding smelter bus-bars. These are increasing in size and can be of the order of 3 feet by 8 inches in section.

Although the electron beam machine would not be a feasible proposition for site welding, it could certainly be used for producing "specials," for example, awkward joints and shapes in bus-bars and connections.

With a high-powered electron beam gun it is possible to obtain a long narrow beam of almost uniform section. This means that it would be possible to weld die-cast sections of a massive aluminium engine block, up to 12 inches thick, completing several welds at different locations (in the same place) in a single pass. The process could also be used for the multi-layer or composite main structural members of aircraft frames.

Copper problems

Copper is a metal which, because of its high heat conductivity, is difficult to weld. It poses problems of high pre-heat temperatures, and welds are subject to lack of penetration defects. Both these difficulties are overcome by electron beam welding, which can easily weld 1 to 1 inch thick copper, about the maximum thickness encountered in chemical engineering and electrical applications and, of course, the most difficult to weld by conventional processes.

Other possible applications for electron beam are for welding the high-strength aluminium/zinc/magnesium alloys developed for armour and military bridges; and for a new approach to fabricating ship's propellers in aluminium bronze. The spinner and the blades could be cast separately, and the blades welded at the roots, using single passes up to nine inches deep. This could simplify fabrication problems for big propellers.

Pulsed tungsten inert gas welding, a process invented in 1960, is attracting increasing attention among non-ferrous metal fabricators because of the very accurate control of both penetration and metallurgy that it offers. In its simplest form TIG pulsed arc welding is a pro-

cess in which the arc current alternates between two levels, up to 12 inches thick. Unfortunately the clad plate produces welding problems because of difficulties in making joints where the two metals are present.

Finally, on the microminiature scale, it is possible to encounter the "purple plague"—a problem afflicting transistors. Purple plague is a brittle intermetallic compound which forms between aluminium and gold. It occurs at joints between aluminium foil a few millimetres of an inch thick and gold lead out wires 1 thousandth of an inch in diameter. When these joints are made by thermocompression the time/temperature parameters are critical and difficult to control. A solution

can be little doubt that the process will be used extensively in the welding of non-ferrous materials, especially in cases where there is a difference in thermal conductivity or thickness between the parts to be joined. The bond is achieved by a sort of vibratory friction weld, and the dangerous temperature at which the purple plague appears is not reached.

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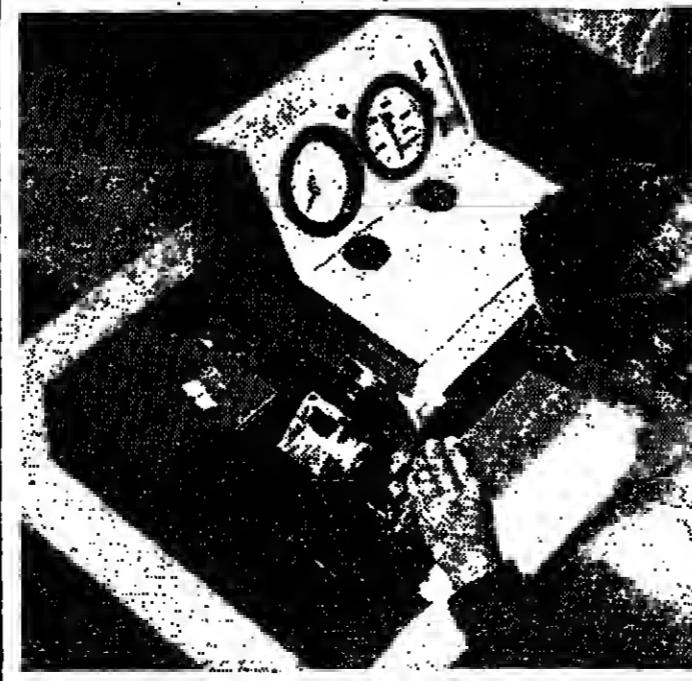
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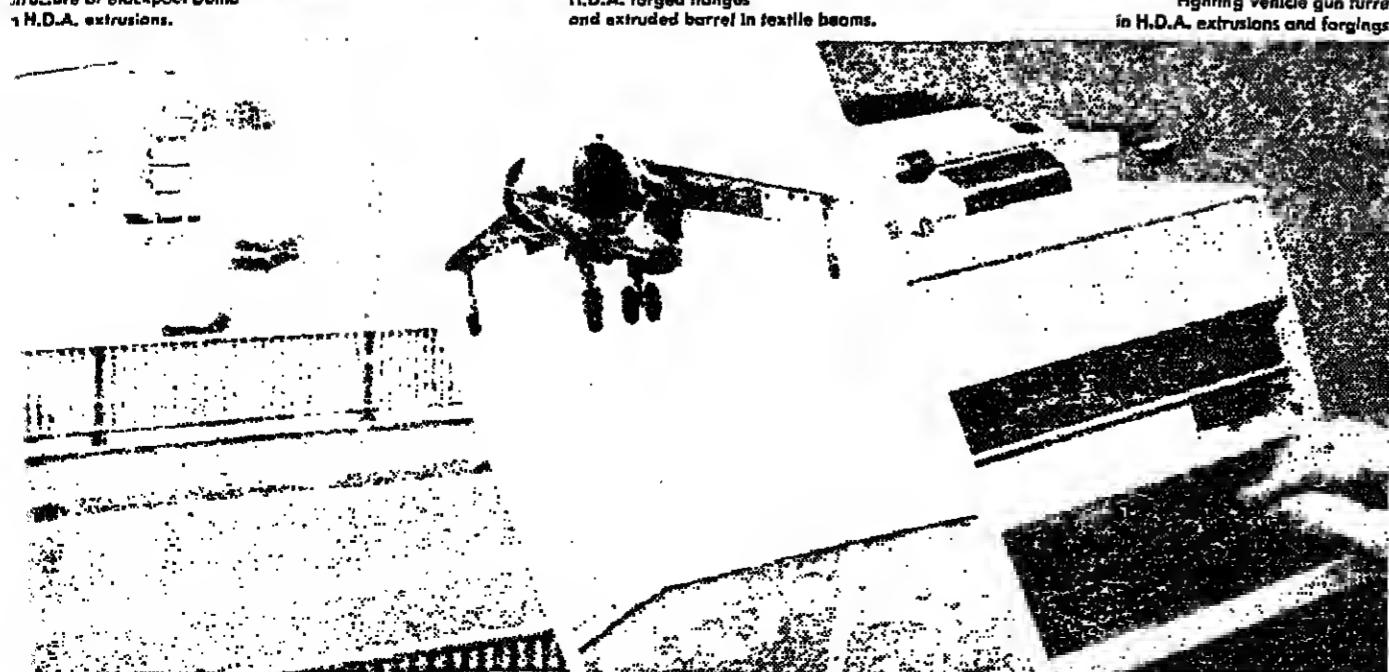
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METALS IN INDUSTRY VI

Reclamation methods improve

By ANDY McELROY

Recycling of used materials has become fashionable over the past five years, mainly as a result of concern with pollution. Now there are suggested schemes for recovering and reusing almost every type of product, from waste gases to plastic containers.

In some industries, however, this accent on reclamation has been in evidence for anything up to 300 years and, perhaps, in some instances, even longer. Such long-standing frugality cannot be claimed for metals, but recovery and re-processing, at least of the more common materials, has been going on for long enough to make it an industry in its own right.

Reclamation of metals in their elemental form—copper from cables, lead from pipes, aluminium from saucepans—is a simple and straightforward task, involving low costs and fairly high returns. Even some common alloys—brass and bronze, for example—are useful for recycling although they are, in the strictest sense, not chemically reformed but merely re-worked into new products.

Separation of such alloys into their constituents is seldom worth while. But this is not universally so, and the number of exceptions is growing steadily.

As with any operation in industry, its value depends on relative costs of alternative sources. Sudden rises in the cost of the virgin metals—and there have been plenty of these in the past ten years—cause industry to take a fresh look at the economics of reclamation processes once rejected as too costly. It is exactly the same mechanism as has prompted mine-owners to reopen poor metal ore seams once bypassed in the search for rich and easily extracted sources.

Reclaiming metals from their alloys is seldom difficult technically. Chemical and electrolytic methods exists for most separations and can be applied as and when costs reach the crossover point against extraction and refining of ores.

Separation in another sense is still the main problem in the recovery of metals and metal alloys themselves, however.

Companies concerned with scrap are still in the situation where identification and positive separation are costly and time-consuming, so that a large part of the available and useful metals are discarded as complete waste.

Ferrous metals present no problem, since simple magnetic separation is available cheaply. But the multiplicity of various metals and their alloys used in, for example, the motor-car, make hand-picking the only practicable way of categorising.

Wage increases make such methods constantly more expensive, and can bring profits down to vanishing point. But what, at present, is the option? Is there any way in which this increasingly important separation can be done?

Strictly limited

Until a few years ago, except for the precious metals, the answer would have been a categorical no. Even to-day, the scope of commercially available systems is strictly limited, but research both in this country and overseas indicates that the day may not be very far off

when the scrap metal industry

will have equipment that will

automatically identify and sort

a wide range of mixed metals.

Systems tried so far fall into

three main categories: mechan-

ical, using the different densities

as a way of differentiating

between one and another; elec-

trical, using induction tech-

niques; and chemical, where

specific solvents are used to

separate the different metals.

Although each of these has been

shown to work satisfactorily in

controlled conditions and with a

restricted range of materials, it

is likely that the complete solu-

tion will only come when two or

even three are used in combina-

tion.

This will demand, of course,

that the industry invests much

more on capital equipment than

it has done hitherto. In turn,

this plant will only be economic

when applied on a large scale

with a constant throughput of

large quantities of mixed scrap.

What will happen, inevitably, is

that the scrap industry will

become concentrated into a

comparatively small number of

highly complex and highly

mechanised installations located

by the major sources of scrap

which also tend, fortunately, to

be near the main customers.

Further down the industry,

scrap collection will, as it has

already tended to do, become

more highly organised, with the

operators of separation plant

calling the tune rather than

waiting for the largely adven-

titious loads that are the norm

at present.

An inhibiting factor in this

development will be the con-

tinuing uncertainty about metal

prices.

There is a general up-

ward trend, but within this

there are quite severe fluctua-

tions that are the cause of much

uncertainty.

Reclamation of

metals has always been a bit

of a gamble, but mainly one

concerned with only compara-

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How

soon the industry will be pre-

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perhaps ten times as much

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ECONOMIC VIEWPOINT

Trade, not money, is the problem now

BY SAMUEL BRITTAN

FORE discussing wider subtleties, the U.K. is on a species of the world currency genuinely floating rate, with no trading scene, one should fixed limits in either direction. The £2.38 floor for sterling which the Bank of England has announced is designed in the first place to reassure any nervous sterling holders who are out of touch with market conditions. It can be changed at any time (almost like a Bank Rate) without a fresh act of policy. If Britain is to secure the full advantages that are possible from the new situation the

Not only did the authorities themselves of the embarrassment commitment to maintain an exchange rate which might have been quite unwise in the face of a flood of dollars; but they did so inconspicuously, quietly and with a minimum of controversy, domestic or international.

The undecided secret hope many past British Chancellors of "floating the pound from strength" has now been shelved. But the theoretical affirmation of the \$2.40 parity, which now has no operational meaning, has so far succeeded beyond the wildest hopes of those who drafted the announcement. This wording has made a new policy acceptable to the French and others who are only committed to a fixed rate. Yet in its actions, Britain followed the German example.

The British Treasury has probably avoided any major net depreciation of sterling, which would have been detrimental to British interests; yet by allowing some modest upward movement against the dollar, Britain is making an appropriate contribution towards the currency alignment on which the Americans are insisting as a condition for the removal of the EEC surcharge. Yet this help has been provided in a way that avoided antagonising the EEC and has even earned the British Government high marks "good Europeanism". Nevertheless, despite all the Treasury's strongest point,

Despite all the subtleties, the U.K. is on a genuinely floating rate, with no fixed limits in either direction. The £2.38 floor... can be changed at any time, without a fresh act of policy.

£2.38 floor should be quietly dropped at an opportune moment while sterling is still strong.

Assuming this is done, all options will remain open for the longer term. There can then be a large appreciation of sterling in the event of a British "economic miracle" or a gradual and timely depreciation if the more conventional view about Britain's place in the international inflation stakes, dollar, would be a hazardous and of the effects of EEC undertaking; and the best chance of achieving realistic payments, prove nearer the pattern of rates is to allow the foreign exchange markets to adjust to pay this tribute, as find their own level with the finesse in diplomacy and public minimum of political interference, has not hitherto been seen.

Although many other countries as well as great opportunities—now uneasily divided—accompany the floating of the tontines arising from the Nixon between gold, dollars, sterling dollar by the import surcharge, similar way, some have still to take a clear-cut decision. By far the biggest sources of confusion at present is the delay of the Japanese Government in deciding by how far and by what means to allow the yen to appreciate. French financial circles are also highly dubious of the ability of the French Government to maintain a fixed and unrevalued parity against the dollar for current transactions if the floating "financial franc" should rise too high above it.

The transition to flexible rates has come, as has always seemed likely, as a result of the breakdown of the system of so-called "fixed exchange rates". The transition cannot therefore be as smooth as if it had been taken place as part of a deliberately planned move, and it will take time for markets to settle down. Even so, foreign exchange markets may well settle down much more smoothly and quickly than the pessimists suppose, especially when the yen situation has been clarified.

It would have saved a great deal of confusion if the U.S. had declared its intention of reopening the gold window at a new and slightly higher official price, thereby indicating the effective devaluation of the dollar at which it was aimed. Such a change can still not be ruled out as part of any international monetary settlement.

It is also an open question how long national monetary authorities will continue to value their gold stocks at the "official" price of \$35, which is now devoid of meaning, at a time when the free market price has been drifting above \$43. Some understanding will have to be worked out about the valuation of gold in settlements between governments and central banks. The future of the Washington Gold Agreement, under which the major monetary authorities undertook to abstain from buying or selling in the free market, will also have to be determined.

Looking further ahead, the whole question of the composition of national monetary

reserves—now uneasily divided between gold, dollars, sterling dollar by the import surcharge, and other protectionist gestures and gadgets. Such measures might have had their place as a substitute for the exchange rate decision, not as an alternative to it. It looks suspiciously as if the President, presented with a number of alternative options, decided to take all or most of them in the desire to be decisive. Thus we have both dollar depreciation and the measures prepared to avoid it.

The most urgent and vital issue is therefore not some "new Bretton Woods" but a concerted attempt to put a time limit on the U.S. surcharge and the latest devices to prevent retaliation by other countries in a profitless game of tit for tat.

In terms of international trading logic the Americans should withdraw their protectionist devices whatever the Japanese do. If they wish to give away goods without importing anything in exchange except paper dollars, it is the body of Japanese citizens who lose and the Americans who gain. But unfortunately, within that body of American gainers, there is a minority of producers sharply hit by Japanese competition and it is necessary for political reasons—as it has been with Lancashire and Asian textiles—to regulate and slow down the pace of readjustment and transfer to other activities.

This is the real connection between the trade and currency issues. The French do not occupy this role in the American market and if the French wish to accumulate dollars at the expense of their own citizens, the rest of us do

not need to lose too much sleep over it.

There will doubtless be an attempt by the IMF and other known parity would be compelled to get back to what is regarded as the "true" Bretton Woods system. By this they be no wild fluctuations or large exchange rates remain normally

A much more immediate issue for the U.N. is the possibility that the EEC might, either at the Finance Ministers' meeting on September 13, or on a later occasion, agree to lock their parities together and float jointly against the dollar. Their failure to do this is far from being the tragedy that is so widely supposed.

The concept of EEC monetary union has always seemed a classic case of putting the currency cart before the political horse. Nevertheless, such a joint move could well be attempted.

In that case Britain's right course seems clear. It is to express support for the move and keep in close touch, but not take part in the period before 1973 when we are not yet members. It was quite impossible to oscillate into one of exchange rate rigidity, or to crumble away into floating rates.

Similar troubles apply to the concept of "wider margins". These are all very well as a protection against purely temporary disturbances; but in the course of time the currencies would tend to become wedged against their upper or lower limits. Wider margins would only be the answer if accompanied by small and timely changes in the central parity itself.

Under these conditions to discover an appropriate idea of whether the proposed monetary unification is either workable or desirable. If it is, then the U.K. can at some stage join after having had a transitional period of floating in which itself. Under these conditions to discover an appropriate market rate would not exchange rate for EEC members. In the meanwhile, a change of parity, and indeed sympathetic non-participation, would tend to become wedge-shaped. The French do not necessarily have to move after a change of parity; and indeed sympathetic non-participation seems the right course. It is only the answer if accompanied by small and timely changes in the central parity itself. Under these conditions to discover an appropriate market rate would not exchange rate for EEC members. In the meanwhile, a change of parity, and indeed sympathetic non-participation, would tend to become wedge-shaped. The French do not necessarily have to move after a change of parity; and indeed sympathetic non-participation seems the right course. It is

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COMPANY NEWS + COMMENT

Gresham Investment tops profit forecast

AGAINST A forecast of not less than £500,000, Gresham Investment Trust reports a group pre-tax profit of £523,398 for the year to March 31, 1971. This represents an increase of 16 per cent over the previous year's £452,471.

The final dividend is the fore-shadowed 4½ per cent, increasing the total from 6½ per cent to 7 per cent. And the directors forecast maintenance of that rate for the current year on capital to be increased by a one-for-eight scrip issue.

They see no reason why the "steady increase" of profit and dividend should not continue.

No profits or income from sale proceeds are included for two subsidiaries (Cam Profiles and Anglia Engineering) sold during the year. Pre-tax profits of £41,440 from these were included in 1970.

Neither does the profit take into account earnings from substantial minorities in unquoted companies. If these had been included, the profit, before tax, would have been increased by more than 50 per cent. Also the profit does not include any profit from realisations of investments amounting to £203,607.

1970-71 1969-70
Profit 523,398 452,471
Taxation 226,908 202,472
Net profit 457,490 452,313
Dividends 330,530 223,435
Retained 206,745 140,073

As known holders will be asked to approve a share incentive scheme for senior executives. Meeting, September 28.

• comment

With a 4½ per cent in the above profit on Friday adding up to two-thirds advance this year, the market seemed to be anticipating a good set of preliminary figures. In the event Gresham Investment has not disappointed with pre-tax profits ahead by 28 per cent (excluding profits in both years from two subsidiaries sold during 1970-71). This is comfortably above the interim forecast.

Overall though, a p/c of 50 looks on the high side but dividends have some support in the impressive record and an apparently cum-growth future.

HIGHLIGHTS

Key results in a quiet week ahead are coming from Carreras (preliminary figures to-day) and London Brick which is scheduled to report for the half-time on Thursday. Considerable interest should also be generated by the interim figures to-morrow from News International and Rentokil, with Pearl Assurance's similar announcement coming the following day. Bather and Platt and Nu-Swift Industries are also due to make half-time statements on Thursday and Friday respectively.

Cooper Industries confident

CHAIRMAN of Cooper Industries Mr. C. Cooper tells members that "prospects have never been better than they are to-day."

Liquidity is at an all-time high and long-term expansion plans are laid. He is confident he will re-report results that break further records this time next year.

As reported July 22, group profits, before tax, for the year ended April 30, 1971, improved from £517,364 to £567,514 and the dividend is raised to 15 per cent (12 per cent).

An analysis of turnover and profit shows steel re-rolling and engineering constituted 40 per cent of the group's trading in the country 15 per cent and 22½ per cent.

The former is after non-recurring charges totalling £50,000 in respect of exceptional bad debts, irrecoverable excess costs on imported materials and stock write-off: the latter includes £15,000 profit on the sale of land.

At April 30, 1971, the chairman told 428,000 ordinary shares of 10p each. The highest paid director received £23,569 (£21,002). Meeting, Dudley, Warks., September 15, at noon.

• comment

On the face of it, Cooper Industries' second-half profits showed growth of 28 per cent compared with 19.3 per cent in the first six months. But this is academic since the report reveals that last year's figures were endorsed by profit on sale of land, and therefore the trading advance in late October on "most encouraging" terms.

All these new stores are trading

to 2.4p. Furthermore, pre-tax margins on the same basis effectively declined by upwards of 14 points to 7.7 per cent over the 12 months. The shares have appreciated from 2.4p since the preliminary figures to a 1971 peak of 27p, where the p/e of 11 still gives little credit to the fact that earnings have increased by over 50 per cent in two years.

Promising Melias outlook

WHILE some sales growth is necessary simply to absorb the effect of rising costs, the chairman of Melias, Mr. J. C. Sanderson, says the outlook for growth in profits in the current year "appears to be very promising."

Sales are currently running about 25 per cent above the level for the same previous period.

The board is confident that the benefit of the substantial and continuing capital expenditure programme will for the first time be felt to a "significant extent" in the current year.

As reported on July 22, group pre-tax profits for the 53 weeks to April 3, 1971, were £10,000 (£113,000 previous year) and the dividend is 6 per cent. The last payment was 7½ per cent in 1968-69.

• comment

After a forecast of maintained or possibly improved 1971 results of 3½ per cent increase in profits, the chairman's pre-tax profits are reassuring. The market, however, seem to have been anticipating something along these lines as the shares have risen 25p to 29p since the forecast in mid-April.

In 1970 the main push (in turnover terms) appears to have come from the 40 per cent increase in exports and this side's contribution to the group's total is 70 per cent.

As reported on August 10, 1971, chairman Mr. J. C. Sanderson told members that "the group profit before tax for the last 12 months improved from £724,190 to a record £873,048 and the dividend is lifted 1½ per cent to 8½ per cent.

All these new stores are trading

rating is perhaps understandable.

profitably and full benefit will only be felt in the current year. Four new stores have opened so far this year, and there are now firm plans for a further six.

Melias is a subsidiary of AB Foods Meeting, Charnock Room, W.C., September 15, noon.

Wolf Tools first half advance

FIRST HALF group pre-tax profit of Wolf Electric Tools (Holdings) increased from £160,000 to £177,000 and chairman, Mr. G. M. Ward, says prospects for the second half are "satisfactory" in spite of the lack of real growth in U.K. manufacturing industry, and the more general cost inflation which is affecting overseas operations.

Profit for the full year 1970 expanded from £277,007 to £298,396, and the dividend was lifted from 15 to 17½ per cent.

Further new Wolf Sapphire products were successfully introduced during the half year, including two portable circular saws.

Half year 1971 1970

Sales 2,429,000 2,121,000

Profit 217,000 160,000

Dividends 52,500 72,000

Net profit 164,500 88,000

Export figures show that the company is competitive in present conditions "and we may reasonably hope that after we have joined the Community the rate of expansion will be even more rapid" will increase even more rapidly.

In the year to March 31, 1971, direct exports increased to a record of over £2m. As reported on July 24 group pre-tax profit was £987,053 (£845,186) and the dividend 22½ (21½) per cent.

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Lord Coleraine has decided to re-locate the business to the U.S. and is intended to invite Mr. L. V. D. Tindale, who joined the board during the year, to succeed him.

Meeting, Charing Cross Hotel, W.C., September 17, noon.

• comment

After a forecast of maintained or possibly improved 1971 results of 3½ per cent increase in profits, the chairman is confident that the market's expectations are reassured. The market, however, seem to have been anticipating something along these lines as the shares have risen 25p to 29p since the forecast in mid-April.

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DIVIDENDS ANNOUNCED

	Current	Date of	Corre-	Total	Total
	payment	payment	div.	last	last
	%	%	%	year	year
Gresham Invest. Trust	4½	Sept 29	3½	17½	16½
Press Tools	10½	—	10	17½	16½
Wolverhampton Racecourse	6½	—	6½	6½	6½

Ebro progress in Europe

UNTIL there is an overall expansion in public works and other construction projects, with some promise of continuity, the demand for the main product of Ebro (Holdings) — hydraulic tipping gears — will continue to be depressed, says chairman, Lord Coleraine.

Before the end of the current year, however, there should be some benefit from the £100m. public works programme announced last month, he adds.

Lord Coleraine reports that the European marketing company continues to make "excellent progress" and in the event of a further fourfold increase in the cost of the Common Market, "your company should be well placed to take advantage of the new situation."

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conditions "and we may reasonably hope that after we have joined the Community the rate of expansion will be even more rapid."

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Wm. Jackson consolidation

The current year for William Jackson and Sons will be one of consolidation, and profit expected to be similar to that shown for 1970-71, chairman P. F. Ogburn tells members.

As reported on August 10, 1971, group profit before tax for the year ended April 24, 1971, was £370,562 and for 1971-72 is expected to be not less than £425,000.

It is explained that at March 31, 1970, the Pensett Trading Estate was professionally valued at £52,650 and the directors consider that in view of its substantial development, Comley and Pitt should be operated as a separate entity within the group and that the existing stock should be exchanged for a stock issued by Comley and Pitt secured solely and directly on the estate.

Profit before interest on the parent company loan and tax of Comley and Pitt for the year ended March 31, 1971, was £370,562 and for 1971-72 is expected to be not less than £425,000.

While the export of coal and coke from the U.K. was curtailed to some degree by liaison requirements, Cory more than made up tonnage and again improved market share to the best level yet recorded.

Regrettably the NCB so far has not recognised the increased costs associated with this activity, continuing the same level of exporters' remuneration introduced over 12 years ago.

Continuing the market in the market supplied as authorised distributors for Shell-Mex and BP enabled a satisfactory increase in oil fuel deliveries, particularly in the domestic central heating and industrial sectors.

Despite the very mild winter, sales improved by nearly 8 per cent because of a record increase in new business gained.

Cory Lighterage has concluded the largest existing GLC contract for the movement of refuse from Grosvenor Dock, and now handles 1,000 tons annually of London's refuse.

This successfully completes the transformation of Cory's coal-carrying activity into a commercially sound refuse lighterage service.

At March 31, future capital expenditure totalled £9,435 (£124,000) of which £8,586 (£112,000) had been contracted.

Regarding the sale of the freehold of Cory Buildings, Viscount Luton may be able to say something specific at the meeting to be held there on September 15 at noon.

Mr. D. C. Cory-Wright, will be retiring from the Board immediately after the meeting.

As to palm oil, however, he says, prospects are good. Output for the first four months was double last year and the final crop should be at least 50 per cent higher. The present price, £15 per ton, compares with last year's average of £10.

A more significant factor is the income from investments in rubber companies. This year, for the first time, dividends will be received from Straits Rubber shares of not less than £60,000, the equivalent of a Straits dividend of 7½ per cent.

As reported on August 7, profit before tax, for the year to March 31, 1971, was £203,738 (£283,106) and the dividend 11 per cent (£11). Turnover from rubber was £67,145 (£92,900) and profit £110,087 (£123,985), and from oil palm £10,655 (£24,591) and £49,011 (£3,183).

Meeting, 19 Leadenhall Street, E.C., September 16, noon.

Chairman's statement Page 6

London Electrical

The Board of London Electrical and General Trust is hopeful that the improving prospects for profits will enable companies to increase their dividends, and as a result increase the income of the Trust for the current year, chairman Mr. J. E. A. R. Guinness tells members.

As mentioned last year, the investment of liquid funds has tended to reduce the immediate income receivable by the Trust.

During the year to June 30, 1971, the Trust's earnings were £1,000,000, the equivalent of 11 per cent (£11).

The forecast is made by chairman Mr. J. Rowland Jones in announcing property sales, and urging members to vote against the resolutions to be submitted at the requisitioned extraordinary meeting, now convened for September 3.

As known, Alliance Property Holdings (headed by Major George Webb and which has made three unsuccessful bids for Raglan) and The Investment Company and Associates, are seeking to remove Mr. Rowland

Board. First expiry date is September 13 (3 p.m.).

W. E. NORTON

Agreement has been reached in principle for W. E. Norton Holdings to acquire the capital of Lilton Machine Tool Company of London, established 1880.

TDG ACQUISITION

Transport Development Group

has acquired the capital of W.

and J. Riding and its associated

subsidiaries for £70,722 TDG

shares.

The Riding companies provide

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Lombard

Nixon's
lesson in
economics

BY JOE ROGALY

MR. NIXON has been described as many things, but not often as a serious contributor to the development of economic analysis in the Western world. This may be the year to so describe him, although the proof, one way or the other, cannot be in the nature of things he available until several years from now. The reason is, of course, that he has introduced a policy of intervention in what was previously thought to be the greatest free market economy the world had ever known. He has proudly described it without actually mentioning the dread Democrat's name as the most important change in economic policy since President Roosevelt's neo-socialist New Deal.

Not whole truth

Now the cynics have already found a reason for this. Their argument is that the President is anxious to win a second term at the November 1972 elections and that almost everything he does from now on will be explainable in the light of that fact. This is almost certainly true, but it is not the whole truth. Mr. Nixon is best understood as a Republican version of Mr. Wilson, a man who is all the more likely to take sudden and spectacular initiatives at times when he feels the need to win the approval of the voters. As a result he is a servant of events, rather than their master, and it is surely events that have forced the latest change of economic direction upon him, rather than any version in a new philosophy.

We are all prisoners of the same series of events that caused Mr. Nixon to act as he did; namely, the inflation that has affected all the countries of the West. This has been accompanied in Britain and America in particular, by a high and electorally unacceptable rate of unemployment. And whatever the rights and wrongs of orthodox economic analysis may be, the simple fact is that in this situation many people have come to lose faith in free market economies as a way out.

Consumer pays

This is especially so when they come to consider wage inflation. It is absurd to go on believing that any market force, operating in the conditions of Western democracy, can by itself overcome the power of modern trade unions. It is not sensible to assume that the power of consumers will force companies to keep prices down and thus bolster their determination to inflict back inflationary wage increases. The contrary is, in fact, the experience of all Western economies, and it is the consensus that this is the reason that analysts who are prepared to recognise existing facts, rather than abstract theories based upon anachronistic assumptions, have been encouraged in the search for some kind of incomes policy.

Events have forced Mr. Nixon to bow to this line of reasoning. Unhappily, he has done so in such a manner that there is a great danger of his policy failing and being soon to fail. The American trade unions are already showing signs of unwillingness to co-operate, and it would be surprising if American consumers had not already begun to invent ways of getting around the inadequately policed price freeze. Worst of all, nobody has any clear idea of what to do about it. There is likely to be a plenty of material available next spring for classical economists to add to their long and gleefully polished lists of incomes policies that have not worked.

Incomes policy

Perhaps, just this once, the lesson will be learned over here in time. A workable incomes policy will surely be devised one day, but when it is it will not be a magic structural device. The engine that drives it can only exist in people's minds. If there is a generally accepted notion that Government policies are more or less fair, and that such-and-such a rate of increase of wages and prices is the least harmful, then most people will probably be prepared to work within those limits. So long as it is socially acceptable for trade unions to extort ludicrous wages, and for weak-willed employers to grant them, the present process will continue; it will be spurred on while people continue to believe Government policies to be hard on the average working man (in Britain those on £25 to £35 a week). A chance can only be slow, and it will never work unless it is well-thought-out and widely discussed in advance. If we learn this from Mr. Nixon's mistakes, he will indeed have contributed, however inadvertently, to economic thought in the West.

THE LEX COLUMN

Changes in the approach to acquisitions

The scene among today's survivors in a "limited conglomerate" is a "real growth" (in share price) is cates), and the sport will pre- have to be to make acceptance their different ways, would breed of conglomerates in the "erotion" form—aiming at not limited by the absolute size of sumably progressively defeat its of either the Grand Met or Watney bids a necessity.

U.K. seems to be as active as more than three or perhaps his vehicle, so that, for example, would probably be the first to admit that Wharf Holdings is not as attractive a project as Gammages. Ralli, a doubling of intrinsic worth per share in a given period which is whether, if the U.K. accedes to the Common Market, continental Europe will provide a much more fertile hunting ground.

selected in favour of respective rises of, say, 50 and 80 per cent.

The position of IT & T—the apparently invincible monster conglomerate—hails thinking about in the broader context of national scale.

Sterling Guarantee, Drakes and Adepton appear to be examples of this school, of the derogatory implications of the word conglomerate. They whose acquisition targets tend to be asset situations which can be bought at discounts on easily

measures of a company's value; and (b) that there is any long-term benefit in exchanging highly rated paper for less highly rated—in view of the premium usually payable and the ultimate downgrading of Williams Hudson was the illustration to end them all.

Meanwhile, assets are of course the main game of most of the institutional shareholders, it may be worth recalling how complicated the gains tax problem would

eventually get enough out of Truman to cover initial earnings dilution, there is little to choose between them on p/e terms with Grand Met on a prospective 15.9

as losers and thus sooner or later, accepting the need to pay gains tax. Truman is quite an extreme case, since at around 45.9 there is a 234 per cent appreciation on its Domesday market of its 5 per cent stake in Truman Hanbury, the advice in this column was that share-

holders without capital gains tax problems should follow suit.

In the event, it seems that some

contingent does. That hardly seems an adequate argument with any selection of reinvested yields to choose from; and the joke is that Inertia, in market terms, will force an even

10 per cent is estimated to change all that. But the point

is that Watney already, on the estimate of one uncommitted analyst, stands in p/e terms at less than a point discount to

prospective majors' average; it was at 4 points' discount as recently as April. Given that, and the Grand Met track record, the choice is between achievement inadequately reflected in the market, and ambition which

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Weather

U.K. TO-DAY

Over England, Wales, Northern Ireland and Southern Scotland there will be a good deal of rain, although some bright spells are also expected. Showers or longer outbreaks of rain will occur in a number of areas, although some places may remain predominantly dry. Temperature will be similar to or a little higher than yesterday's.

London: Cent. S. Eng.; Midland-Cent. N. Eng.

Rather cloudy. Some showers or perhaps outbreaks of rain. Wind NE light. Max. 21C (74F).

SE and E. Eng.: E. Anglia Mainly cloudy. Some showers or perhaps outbreaks of rain. Some bright spells. Max. 11F (54F), cooler on coasts.

Channel Is.: S. W. Eng.: S. Wales: N. Wales: N.W. Eng.; Lake L. of Man; S.W. Scot.; N. Ireland. Rather cloudy, but some bright spells. Max. 19C (68F).

N.E. Eng.; Borders. Rather cloudy. Some showers or outbreaks of rain. Max. 16 (61F), cooler on coasts.

E. Scotland. Mostly dry with sunny intervals. Max. 17C (63F), cooler on coasts.

Caithness; Orkney; Shetland. Mostly dry with sunny intervals. Max. 15C (59F).

Cent. Highlands: Argyll; N.W. Scot. Mostly dry with sunny intervals. Max. 16C (61F).

Onlook: Unsettled with rain at times.

BUSINESS CENTRES

	1-day	Mid-day	1-day
Amsterdam	C 15	London	C 17
Bahrain	S 35 86	Luxembourg	C 18 86
Berlin	S 39 86	Madrid	S 27 86
Belfast	R 14	Manchester	C 17 86
Bermondsey	S 25 86	Montreal	C 22 86
Berlin	P 27 86	Milan	C 23 86
Birmingham	C 16 86	Moscow	C 18 86
Brussels	C 17 86	Manch	C 26 86
Bristol	C 15 86	Newcastle	C 17 86
Brownhills	S 25 86	Oslo	C 19 86
Budapest	S 15 86	Paris	C 25 86
B. Aires	S 25 86	Prague	C 25 86
Cairo	S 26 86	Stockholm	C 19 86
Cardiff	C 17 86	Toronto	C 22 86
Copenhagen	C 16 86	Singapore	C 22 86
Dublin	C 15 86	Stockholm	C 19 86
Edinburgh	C 14	Strasbourg	C 16 86
Edinburgh	C 14	Sydney	C 16 86
Edinburgh	C 14	Tokyo	C 27 86
Edinburgh	C 14	Tel Aviv	C 25 86
Edinburgh	C 14	Toronto	C 27 86
Edinburgh	C 14	Vienna	C 27 86
Edinburgh	C 14	Warsaw	C 17 86
Lisbon	C 15 86	Zurich	C 17 86

HOLIDAY RESORTS

	1-day	Mid-day	1-day
Austria	C 15	Barbados	C 17 86
Alexandria	S 29 86	Jersey	S 27 86
Athens	S 31 86	Las Palmas	S 24 86
Barcelona	S 29 86	Luxembourg	S 30 86
Blackpool	C 16 86	Malaga	S 29 86
Bordeaux	C 17 86	Malta	S 29 86
Boulogne	C 16 86	Napoli	S 29 86
Capo Town	C 15 86	Nice	S 29 86
Corfu	S 31 86	Nicosia	S 24 86
Copenhagen	C 32 86	Oruro	S 24 86
Florence	C 17 86	Palma	S 29 86
Funchal	P 21 72	St. Moritz	C 14 86
Gibraltar	C 22 77	Tenerife	S 27 86
Gibraltar	C 22 77	Toronto	C 27 86
Inverness	S 15 86	Valecia	S 25 86
Inverness	S 15 86	Venice	S 25 86
Is. of Man	C 14 86	Venice	C 25 86
S-Sunny	C 14 86	C-Cloudy	R-Hazy

WOOLWORTH'S TO SELL FUR COATS

Woolworth's is to sell simulated fur coats. They are being introduced on Oxford Street and 11 stores in London, Croydon, Guildford, Liverpool, Norwich, Coventry, Ipswich, Wolverhampton and Gloucester.

The coats, in simulated rabbit mink and pony skin, will cost £15.

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Truman Trio

Last Friday, following the Prudential's sale through the market of its 5 per cent stake in Truman Hanbury on 15.1 at 123p. The difference is that

Truman is quite an event in a record of explosive earnings growth (in share price) whereas Watney is in

recent years, has not been one

of the success stories among the trading majors. It might be

argued that its apparent market value is not reflected in the "winner's" equity.

There is, of course, the point

that Watney already, on the

estimate of one uncommitted

analyst, stands in p/e terms at

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